

# SEQUENCE LISTING

<110> Patten, Phillip A. et al.

<120> Interferon-Alpha Polypeptides and Conjugates

<130> 0269us310

<150> US 60/502,560

<151> 2003-09-12

<150> US 60/427,612

<151> 2002-11-18

<160> 104

<170> FastSEQ for Windows Version 4.0

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<212> PRT

<213> Artificial Sequence

<220>

<223> IFNalpha B9x11

<400> 1

Cys	Asp	Leu	Pro	Gln	Thr	His	Ser	Leu	Gly	His	Arg	Arg	Thr	Met	Met
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Leu	Leu	Ala	Gln	Met	Arg	Arg	Ile	Ser	Leu	Phe	Ser	Cys	Leu	Lys	Asp
			20					25					30		
Arg	His	Asp	Phe	Arg	Phe	Pro	Gln	Glu	Glu	Phe	Asp	Gly	Asn	His	Phe
		35					40					45			
Gln	Lys	Val	Gln	Ala	Ile	Phe	Leu	Phe	Tyr	Glu	Met	Met	Gln	Gln	Thr
		50				55					60				
Phe	Asn	Leu	Phe	Ser	Thr	Lys	Asn	Ser	Ser	Ala	Ala	Trp	Asp	Glu	Thr
65					70					75					80

Leu Leu Glu Lys Phe Tyr Ile Glu Leu Phe Gln Gln Met Asn Asp Leu  
                     85                    90                    95  
 Glu Ala Cys Val Met Gln Glu Val Gly Val Glu Glu Thr Pro Leu Met  
                     100                    105                    110  
 Asn Val Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr  
                     115                    120                    125  
 Leu Tyr Leu Thr Lys Lys Lys Tyr Ser Pro Cys Ser Trp Glu Val Val  
                     130                    135                    140  
 Arg Ala Glu Ile Met Arg Ser Phe Ser Phe Ser Thr Asn Leu Gln Lys  
 145                    150                    155                    160  
 Arg Leu Arg Arg Lys Glu  
                     165

<210> 2

<211> 166

<212> PRT

<213> Artificial Sequence

<220>

<223> IFNalpha B9x12

<400> 2

Cys Asp Leu Pro Gln Thr His Ser Leu Gly His Arg Arg Thr Met Met  
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 Leu Leu Ala Gln Met Arg Arg Ile Ser Leu Phe Ser Cys Leu Lys Asp  
                     20                    25                    30  
 Arg His Asp Phe Arg Phe Pro Gln Glu Glu Phe Asp Gly Asn Gln Phe  
                     35                    40                    45  
 Gln Lys Val Gln Ala Ile Phe Leu Phe Tyr Glu Met Met Gln Gln Thr  
                     50                    55                    60  
 Phe Asn Leu Phe Ser Thr Lys Asn Ser Ser Ala Ala Trp Asp Glu Thr  
 65                    70                    75                    80  
 Leu Leu Glu Lys Phe Tyr Ile Glu Leu Phe Gln Gln Met Asn Asp Leu  
                     85                    90                    95  
 Glu Ala Cys Val Met Gln Glu Val Gly Val Glu Glu Thr Pro Leu Met  
                     100                    105                    110  
 Asn Val Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr  
                     115                    120                    125  
 Leu Tyr Leu Thr Lys Lys Lys Tyr Ser Pro Cys Ser Trp Glu Val Val  
                     130                    135                    140



<212> PRT

<213> Artificial Sequence

<220>

<223> IFNalpha B9x15

<400> 4

Cys Asp Leu Pro Gln Thr His Ser Leu Gly His Arg Arg Thr Met Met  
1 5 10 15  
Leu Leu Ala Gln Met Arg Arg Ile Ser Leu Phe Ser Cys Leu Lys Asp  
20 25 30  
Arg His Asp Phe Arg Phe Pro Gln Glu Glu Phe Asp Gly Asn Gln Phe  
35 40 45  
Gln Lys Thr Gln Ala Ile Ser Val Phe His Glu Met Met Gln Gln Thr  
50 55 60  
Phe Asn Leu Phe Ser Thr Lys Asn Ser Ser Ala Ala Trp Asp Glu Thr  
65 70 75 80  
Leu Leu Glu Lys Phe Tyr Ile Glu Leu Phe Gln Gln Met Asn Asp Leu  
85 90 95  
Glu Ala Cys Val Met Gln Glu Val Gly Val Glu Glu Thr Pro Leu Met  
100 105 110  
Asn Val Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr  
115 120 125  
Leu Tyr Leu Thr Lys Lys Lys Tyr Ser Pro Cys Ser Trp Glu Val Val  
130 135 140  
Arg Ala Glu Ile Met Arg Ser Phe Ser Phe Ser Thr Asn Leu Gln Lys  
145 150 155 160  
Arg Leu Arg Arg Lys Glu  
165

<210> 5

<211> 166

<212> PRT

<213> Artificial Sequence

<220>

<223> IFNalpha B9x16

<400> 5

Cys Asp Leu Pro Gln Thr His Ser Leu Gly His Arg Arg Thr Met Met

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Leu Leu Ala Gln Met Arg Arg Ile Ser Leu Phe Ser Cys Leu Lys Asp			
20	25	30	
Arg His Asp Phe Arg Phe Pro Gln Glu Glu Phe Asp Gly Asn Gln Phe			
35	40	45	
Gln Lys Val Gln Ala Ile Phe Leu Phe Tyr Glu Met Met Gln Gln Thr			
50	55	60	
Phe Asn Leu Phe Ser Thr Lys Asn Ser Ser Ala Ala Trp Asp Glu Thr			
65	70	75	80
Leu Leu Glu Lys Phe Tyr Ile Glu Leu Phe Gln Gln Met Asn Asp Leu			
85	90	95	
Glu Ala Cys Val Met Gln Glu Val Gly Val Glu Glu Thr Pro Leu Met			
100	105	110	
Asn Val Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr			
115	120	125	
Leu Tyr Leu Thr Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val			
130	135	140	
Arg Ala Glu Ile Met Arg Ser Phe Ser Phe Ser Thr Asn Leu Gln Lys			
145	150	155	160
Arg Leu Arg Arg Lys Glu			
165			

<210> 6

<211> 166

<212> PRT

<213> Artificial Sequence

<220>

<223> IFNalpha B9x17

<400> 6

Cys Asp Leu Pro Gln Thr His Ser Leu Gly His Arg Arg Thr Met Met			
1	5	10	15
Leu Leu Ala Gln Met Arg Arg Ile Ser Leu Phe Ser Cys Leu Lys Asp			
20	25	30	
Arg His Asp Phe Arg Phe Pro Gln Glu Glu Phe Asp Gly Asn His Phe			
35	40	45	
Gln Lys Thr Gln Ala Ile Ser Val Phe His Glu Met Met Gln Gln Thr			
50	55	60	
Phe Asn Leu Phe Ser Thr Lys Asn Ser Ser Ala Ala Trp Asp Glu Thr			

65		70		75		80										
Leu	Leu	Glu	Lys	Phe	Tyr	Ile	Glu	Leu	Phe	Gln	Gln	Met	Asn	Asp	Leu	
		85							90					95		
Glu	Ala	Cys	Val	Met	Gln	Glu	Val	Gly	Val	Glu	Glu	Thr	Pro	Leu	Met	
		100						105						110		
Asn	Val	Asp	Ser	Ile	Leu	Ala	Val	Arg	Lys	Tyr	Phe	Gln	Arg	Ile	Thr	
		115						120					125			
Leu	Tyr	Leu	Thr	Glu	Lys	Lys	Tyr	Ser	Pro	Cys	Ala	Trp	Glu	Val	Val	
	130					135					140					
Arg	Ala	Glu	Ile	Met	Arg	Ser	Phe	Ser	Phe	Ser	Thr	Asn	Leu	Gln	Lys	
145				150					155					160		
Arg	Leu	Arg	Arg	Lys	Glu											
		165														

<210> 7

<211> 166

<212> PRT

<213> Artificial Sequence

<220>

<223> IFNalpha B9x18

<400> 7

Cys	Asp	Leu	Pro	Gln	Thr	His	Ser	Leu	Gly	His	Arg	Arg	Thr	Met	Met
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Leu	Leu	Ala	Gln	Met	Arg	Arg	Ile	Ser	Leu	Phe	Ser	Cys	Leu	Lys	Asp
		20						25					30		
Arg	His	Asp	Phe	Arg	Phe	Pro	Gln	Glu	Glu	Phe	Asp	Gly	Asn	Gln	Phe
	35					40					45				
Gln	Lys	Thr	Gln	Ala	Ile	Ser	Val	Phe	His	Glu	Met	Met	Gln	Gln	Thr
	50				55					60					
Phe	Asn	Leu	Phe	Ser	Thr	Lys	Asn	Ser	Ser	Ala	Ala	Trp	Asp	Glu	Thr
65			70						75					80	
Leu	Leu	Glu	Lys	Phe	Tyr	Ile	Glu	Leu	Phe	Gln	Gln	Met	Asn	Asp	Leu
		85							90					95	
Glu	Ala	Cys	Val	Met	Gln	Glu	Val	Gly	Val	Glu	Glu	Thr	Pro	Leu	Met
		100						105					110		
Asn	Val	Asp	Ser	Ile	Leu	Ala	Val	Arg	Lys	Tyr	Phe	Gln	Arg	Ile	Thr
	115							120					125		
Leu	Tyr	Leu	Thr	Glu	Lys	Lys	Tyr	Ser	Pro	Cys	Ala	Trp	Glu	Val	Val

130                      135                      140  
 Arg Ala Glu Ile Met Arg Ser Phe Ser Phe Ser Thr Asn Leu Gln Lys  
 145                      150                      155                      160  
 Arg Leu Arg Arg Lys Glu  
                          165

<210> 8  
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 <212> PRT  
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<220>  
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<400> 8  
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 Leu Met Ala Gln Met Arg Arg Ile Ser Pro Phe Ser Cys Leu Lys Asp  
                          20                      25                      30  
 Arg His Asp Phe Gly Phe Pro Glu Glu Glu Phe Asp Gly His Gln Phe  
                          35                      40                      45  
 Gln Lys Thr Gln Ala Ile Ser Val Leu His Glu Leu Ile Gln Gln Thr  
                          50                      55                      60  
 Phe Asn Leu Phe Ser Thr Lys Asn Ser Ser Ala Ala Trp Asp Glu Thr  
 65                      70                      75                      80  
 Leu Leu Glu Lys Phe Tyr Ile Glu Leu Phe Gln Gln Met Asn Asn Leu  
                          85                      90                      95  
 Glu Ala Cys Val Ile Gln Glu Val Gly Val Glu Glu Ile Ala Leu Met  
                          100                      105                      110  
 Asn Val Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Arg Arg Ile Thr  
                          115                      120                      125  
 Leu Tyr Leu Thr Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val  
                          130                      135                      140  
 Arg Ala Glu Ile Met Arg Ser Phe Ser Phe Ser Thr Asn Leu Gln Lys  
 145                      150                      155                      160  
 Arg Leu Arg Arg Lys Glu  
                          165

<210> 9

<211> 166  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> IFNalpha B9x22

<400> 9

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1 5 10 15  
Leu Met Ala Gln Met Arg Arg Ile Ser Pro Phe Ser Cys Leu Lys Asp  
20 25 30  
Arg His Asp Phe Gly Phe Pro Glu Glu Glu Phe Asp Gly His His Phe  
35 40 45  
Gln Lys Thr Gln Ala Ile Ser Val Leu His Glu Leu Ile Gln Gln Thr  
50 55 60  
Phe Asn Leu Phe Ser Thr Lys Asn Ser Ser Ala Ala Trp Asp Glu Thr  
65 70 75 80  
Leu Leu Glu Lys Phe Tyr Ile Glu Leu Phe Gln Gln Met Asn Asn Leu  
85 90 95  
Glu Ala Cys Val Ile Gln Glu Val Gly Val Glu Glu Ile Ala Leu Met  
100 105 110  
Asn Val Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Arg Arg Ile Thr  
115 120 125  
Leu Tyr Leu Thr Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val  
130 135 140  
Arg Ala Glu Ile Met Arg Ser Phe Ser Phe Ser Thr Asn Leu Gln Lys  
145 150 155 160  
Arg Leu Arg Arg Lys Glu  
165

<210> 10  
<211> 166  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> IFNalpha B9x23

<400> 10



Cys Asp Leu Pro Gln Thr His Ser Leu Ser Asn Arg Arg Thr Leu Met  
 1 5 10 15  
 Leu Met Ala Gln Met Arg Arg Ile Ser Pro Phe Ser Cys Leu Lys Asp  
 20 25 30  
 Arg His Asp Phe Gly Phe Pro Glu Glu Glu Phe Asp Gly His Gln Phe  
 35 40 45  
 Gln Lys Val Gln Ala Ile Phe Leu Leu Tyr Glu Leu Ile Gln Gln Thr  
 50 55 60  
 Phe Asn Leu Phe Ser Thr Lys Asn Ser Ser Ala Ala Trp Asp Glu Thr  
 65 70 75 80  
 Leu Leu Glu Lys Phe Tyr Ile Glu Leu Phe Gln Gln Met Asn Asn Leu  
 85 90 95  
 Glu Ala Cys Val Ile Gln Glu Val Gly Val Glu Glu Ile Ala Leu Met  
 100 105 110  
 Asn Val Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Arg Arg Ile Thr  
 115 120 125  
 Leu Tyr Leu Thr Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val  
 130 135 140  
 Arg Ala Glu Ile Met Arg Ser Phe Ser Phe Ser Thr Asn Leu Gln Lys  
 145 150 155 160  
 Arg Leu Arg Arg Lys Glu  
 165

<210> 11

<211> 166

<212> PRT

<213> Artificial Sequence

<220>

<223> IFNalpha B9x24

<400> 11

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 Leu Met Ala Gln Met Arg Arg Ile Ser Pro Phe Ser Cys Leu Lys Asp  
 20 25 30  
 Arg His Asp Phe Gly Phe Pro Glu Glu Glu Phe Asp Gly His Gln Phe  
 35 40 45  
 Gln Lys Thr Gln Ala Ile Ser Val Leu His Glu Leu Ile Gln Gln Thr  
 50 55 60



Leu Tyr Leu Thr Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val  
 130 135 140  
 Arg Ala Glu Ile Met Arg Ser Phe Ser Phe Ser Thr Asn Leu Gln Lys  
 145 150 155 160  
 Arg Leu Arg Arg Lys Glu  
 165

<210> 13  
 <211> 166  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> IFNalpha B9x26

<400> 13  
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 1 5 10 15  
 Leu Met Ala Gln Met Arg Arg Ile Ser Pro Phe Ser Cys Leu Lys Asp  
 20 25 30  
 Arg His Asp Phe Gly Phe Pro Glu Glu Glu Phe Asp Gly His His Phe  
 35 40 45  
 Gln Lys Thr Gln Ala Ile Ser Val Leu His Glu Leu Ile Gln Gln Thr  
 50 55 60  
 Phe Asn Leu Phe Ser Thr Lys Asn Ser Ser Ala Ala Trp Asp Glu Thr  
 65 70 75 80  
 Leu Leu Glu Lys Phe Tyr Ile Glu Leu Phe Gln Gln Met Asn Asn Leu  
 85 90 95  
 Glu Ala Cys Val Ile Gln Glu Val Gly Val Glu Glu Ile Ala Leu Met  
 100 105 110  
 Asn Val Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Arg Arg Ile Thr  
 115 120 125  
 Leu Tyr Leu Thr Lys Lys Lys Tyr Ser Pro Cys Ser Trp Glu Val Val  
 130 135 140  
 Arg Ala Glu Ile Met Arg Ser Phe Ser Phe Ser Thr Asn Leu Gln Lys  
 145 150 155 160  
 Arg Leu Arg Arg Lys Glu  
 165

<210> 14  
 <211> 166  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> IFNalpha B9x27

<400> 14  
 Cys Asp Leu Pro Gln Thr His Ser Leu Ser Asn Arg Arg Thr Leu Met  
 1 5 10 15  
 Leu Met Ala Gln Met Arg Arg Ile Ser Pro Phe Ser Cys Leu Lys Asp  
 20 25 30  
 Arg His Asp Phe Gly Phe Pro Glu Glu Glu Phe Asp Gly His Gln Phe  
 35 40 45  
 Gln Lys Val Gln Ala Ile Phe Leu Leu Tyr Glu Leu Ile Gln Gln Thr  
 50 55 60  
 Phe Asn Leu Phe Ser Thr Lys Asn Ser Ser Ala Ala Trp Asp Glu Thr  
 65 70 75 80  
 Leu Leu Glu Lys Phe Tyr Ile Glu Leu Phe Gln Gln Met Asn Asn Leu  
 85 90 95  
 Glu Ala Cys Val Ile Gln Glu Val Gly Val Glu Glu Ile Ala Leu Met  
 100 105 110  
 Asn Val Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Arg Arg Ile Thr  
 115 120 125  
 Leu Tyr Leu Thr Lys Lys Lys Tyr Ser Pro Cys Ser Trp Glu Val Val  
 130 135 140  
 Arg Ala Glu Ile Met Arg Ser Phe Ser Phe Ser Thr Asn Leu Gln Lys  
 145 150 155 160  
 Arg Leu Arg Arg Lys Glu  
 165

<210> 15  
 <211> 166  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> IFNalpha B9x28

<400> 15

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1 5 10 15  
Leu Met Ala Gln Met Arg Arg Ile Ser Pro Phe Ser Cys Leu Lys Asp  
20 25 30  
Arg His Asp Phe Gly Phe Pro Glu Glu Glu Phe Asp Gly His His Phe  
35 40 45  
Gln Lys Val Gln Ala Ile Phe Leu Leu Tyr Glu Leu Ile Gln Gln Thr  
50 55 60  
Phe Asn Leu Phe Ser Thr Lys Asn Ser Ser Ala Ala Trp Asp Glu Thr  
65 70 75 80  
Leu Leu Glu Lys Phe Tyr Ile Glu Leu Phe Gln Gln Met Asn Asn Leu  
85 90 95  
Glu Ala Cys Val Ile Gln Glu Val Gly Val Glu Glu Ile Ala Leu Met  
100 105 110  
Asn Val Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Arg Arg Ile Thr  
115 120 125  
Leu Tyr Leu Thr Lys Lys Lys Tyr Ser Pro Cys Ser Trp Glu Val Val  
130 135 140  
Arg Ala Glu Ile Met Arg Ser Phe Ser Phe Ser Thr Asn Leu Gln Lys  
145 150 155 160  
Arg Leu Arg Arg Lys Glu  
165

<210> 16

<211> 498

<212> DNA

<213> Artificial Sequence

<220>

<223> IFNalpha B9x11 coding sequence

<400> 16

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gaggagtttg atggcaacca cttccagaag gttcaagcta tcttcctttt ctatgagatg 180  
atgcagcaga ctttcaacct cttcagcaca aagaactcat ctgctgcttg ggatgagacc 240  
ctcctagaaa aattctacat tgaacttttc cagcaaatga atgacctgga agcctgcgtg 300  
atgcaggagg ttggagtggg agagactccc ctgatgaatg tggactccat cctggctgtg 360  
aggaaatact ttcaaagaat cactctttat ctgacaaaga agaagtatag cccttggttcc 420

tgggaggttg tcagagcaga aatcatgaga tctttctctt tttcaacaaa cttgcaaaaa 480  
agattaagga ggaaggaa 498

<210> 17

<211> 498

<212> DNA

<213> Artificial Sequence

<220>

<223> IFNalpha B9x12 coding sequence

<400> 17

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gaggagtttg atggcaacca gttccagaag gttcaagcta tcttcctttt ctatgagatg 180  
atgcagcaga ctttcaacct cttcagcaca aagaactcat ctgctgcttg ggatgagacc 240  
ctcctagaaa aattctacat tgaacttttc cagcaaata gaacactgga agcctgcgtg 300  
atgcaggagg ttggagtgga agagactccc ctgatgaatg tggactccat cctggctgtg 360  
aggaaatact ttcaaagaat cactctttat ctgacaaaga agaagtatag cccttggtcc 420  
tgggaggttg tcagagcaga aatcatgaga tctttctctt tttcaacaaa cttgcaaaaa 480  
agattaagga ggaaggaa 498

<210> 18

<211> 498

<212> DNA

<213> Artificial Sequence

<220>

<223> IFNalpha B9x14 coding sequence

<400> 18

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gaggagtttg atggcaacca cttccagaag gttcaagcta tcttcctttt ctatgagatg 180  
atgcagcaga ctttcaacct cttcagcaca aagaactcat ctgctgcttg ggatgagacc 240  
ctcctagaaa aattctacat tgaacttttc cagcaaata gaacactgga agcctgcgtg 300  
atgcaggagg ttggagtgga agagactccc ctgatgaatg tggactccat cctggctgtg 360  
aggaaatact ttcaaagaat cactctttat ctgacagaga agaagtatag cccttggtgcc 420  
tgggaggttg tcagagcaga aatcatgaga tctttctctt tttcaacaaa cttgcaaaaa 480  
agattaagga ggaaggaa 498

<210> 19  
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<212> DNA  
<213> Artificial Sequence

<220>  
<223> IFNalpha B9x15 coding sequence

<400> 19  
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gaggagtttg atggcaacca gttccagaag actcaagcta tctctgtctt ccatgagatg 180  
atgcagcaga ccttcaacct cttcagcaca aagaactcat ctgctgcttg ggatgagacc 240  
ctcctagaaa aattctacat tgaacttttc cagcaaatga atgacctgga agcctgcgtg 300  
atgcaggagg ttggagtggg agagactccc ctgatgaatg tggactccat cctggctgtg 360  
aggaaatact ttcaaagaat cactctttat ctgacaaaga agaagtatag cccttggtcc 420  
tgaggaggtg tcagagcaga aatcatgaga tctttctctt tttcaacaaa cttgcaaaaa 480  
agattaagga ggaaggaa 498

<210> 20  
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<212> DNA  
<213> Artificial Sequence

<220>  
<223> IFNalpha B9x16 coding sequence

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gaggagtttg atggcaacca gttccagaag gttcaagcta tcttcctttt ctatgagatg 180  
atgcagcaga ccttcaacct cttcagcaca aagaactcat ctgctgcttg ggatgagacc 240  
ctcctagaaa aattctacat tgaacttttc cagcaaatga atgacctgga agcctgcgtg 300  
atgcaggagg ttggagtggg agagactccc ctgatgaatg tggactccat cctggctgtg 360  
aggaaatact ttcaaagaat cactctttat ctgacagaga agaagtatag cccttggtgcc 420  
tgaggaggtg tcagagcaga aatcatgaga tctttctctt tttcaacaaa cttgcaaaaa 480  
agattaagga ggaaggaa 498

<210> 21  
<211> 498  
<212> DNA

<213> Artificial Sequence

<220>

<223> IFNalpha B9x17 coding sequence

<400> 21

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gaggagtttg atggcaacca cttccagaag actcaagcta tctctgtctt ccatgagatg 180
atgcagcaga ctttcaacct cttcagcaca aagaactcat ctgctgcttg ggatgagacc 240
ctcctagaaa aattctacat tgaacttttc cagcaaata gaacactgga agcctgcgtg 300
atgcaggagg ttggagtggg agagactccc ctgatgaatg tggactccat cctggctgtg 360
aggaaatact ttcaaagaat cactctttat ctgacagaga agaagtatag cccttgtgcc 420
tgaggaggtg tcagagcaga aatcatgaga tctttctctt tttcaacaaa cttgcaaaaa 480
agattaagga ggaaggaa 498
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<210> 22

<211> 498

<212> DNA

<213> Artificial Sequence

<220>

<223> IFNalpha B9x18 coding sequence

<400> 22

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gaggagtttg atggcaacca gttccagaag actcaagcta tctctgtctt ccatgagatg 180
atgcagcaga ctttcaacct cttcagcaca aagaactcat ctgctgcttg ggatgagacc 240
ctcctagaaa aattctacat tgaacttttc cagcaaata gaacactgga agcctgcgtg 300
atgcaggagg ttggagtggg agagactccc ctgatgaatg tggactccat cctggctgtg 360
aggaaatact ttcaaagaat cactctttat ctgacagaga agaagtatag cccttgtgcc 420
tgaggaggtg tcagagcaga aatcatgaga tctttctctt tttcaacaaa cttgcaaaaa 480
agattaagga ggaaggaa 498
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<210> 23

<211> 498

<212> DNA

<213> Artificial Sequence

<220>



<223> IFNalpha B9x21 coding sequence

<400> 23

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atgaggagaa tctctccttt ctctgcctg aaggacagac atgatttcgg attccccgag 120
gaggagtttg atggccacca gttccagaag actcaagcca tctctgtcct ccatgagctg 180
atccagcaga ctttcaatct cttcagcaca aagaactcat ctgctgcttg ggatgagacc 240
ctcctagaaa aattctacat tgaacttttc cagcaaatga ataacctgga agcatgtgtg 300
atacaggagg ttggggtgga agagattgcc ctgatgaatg tggactccat cctggctgtg 360
aggaaatact tccgaagaat cactctctat ctgacagaga agaaatacag cccttgtgcc 420
tgaggaggtg tcagagcaga aatcatgaga tctttctctt tttcaacaaa cttgcaaaaa 480
agattaagga ggaaggaa
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498

<210> 24

<211> 498

<212> DNA

<213> Artificial Sequence

<220>

<223> IFNalpha B9x22 coding sequence

<400> 24

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tgtgatctgc ctcagaccca cagcctgagt aacaggagga ctctgatgct catggcacia 60
atgaggagaa tctctccttt ctctgcctg aaggacagac atgatttcgg attccccgag 120
gaggagtttg atggccacca cttccagaag actcaagcca tctctgtcct ccatgagctg 180
atccagcaga ctttcaatct cttcagcaca aagaactcat ctgctgcttg ggatgagacc 240
ctcctagaaa aattctacat tgaacttttc cagcaaatga ataacctgga agcatgtgtg 300
atacaggagg ttggggtgga agagattgcc ctgatgaatg tggactccat cctggctgtg 360
aggaaatact tccgaagaat cactctctat ctgacagaga agaaatacag cccttgtgcc 420
tgaggaggtg tcagagcaga aatcatgaga tctttctctt tttcaacaaa cttgcaaaaa 480
agattaagga ggaaggaa
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498

<210> 25

<211> 498

<212> DNA

<213> Artificial Sequence

<220>

<223> IFNalpha B9x23 coding sequence

<400> 25

tgtgatctgc ctcagaccca cagcctgagt aacaggagga ctctgatgct catggcacaa 60  
 atgaggagaa tctctccttt ctctgcctg aaggacagac atgatttcgg attccccgag 120  
 gaggagtttg atggccacca gttccagaag gttcaagcca tcttccttct ctatgagctg 180  
 atccagcaga ccttcaatct ctccagcaca aagaactcat ctgctgcttg ggatgagacc 240  
 ctctagaaa aattctacat tgaacttttc cagcaaata gaataacctgga agcatgtgtg 300  
 atacaggagg ttgggggtgga agagattgcc ctgatgaatg tggactccat cctggctgtg 360  
 aggaaatact tccgaagaat cactctctat ctgacagaga agaaatacag cccttgtgtcc 420  
 tgggaggttg tcagagcaga aatcatgaga tctttctctt tttcaacaaa cttgcaaaaa 480  
 agattaagga ggaaggaa 498

<210> 26

<211> 498

<212> DNA

<213> Artificial Sequence

<220>

<223> IFNalpha B9x24 coding sequence

<400> 26

tgtgatctgc ctcagaccca cagcctgagt aacaggagga ctctgatgct catggcacaa 60  
 atgaggagaa tctctccttt ctctgcctg aaggacagac atgatttcgg attccccgag 120  
 gaggagtttg atggccacca gttccagaag actcaagcca tctctgtcct ccatgagctg 180  
 atccagcaga ccttcaatct ctccagcaca aagaactcat ctgctgcttg ggatgagacc 240  
 ctctagaaa aattctacat tgaacttttc cagcaaata gaataacctgga agcatgtgtg 300  
 atacaggagg ttgggggtgga agagattgcc ctgatgaatg tggactccat cctggctgtg 360  
 aggaaatact tccgaagaat cactctctat ctgacaaaga agaaatacag cccttgttcc 420  
 tgggaggttg tcagagcaga aatcatgaga tctttctctt tttcaacaaa cttgcaaaaa 480  
 agattaagga ggaaggaa 498

<210> 27

<211> 498

<212> DNA

<213> Artificial Sequence

<220>

<223> IFNalpha B9x25 coding sequence

<400> 27

tgtgatctgc ctcagaccca cagcctgagt aacaggagga ctctgatgct catggcacaa 60  
 atgaggagaa tctctccttt ctctgcctg aaggacagac atgatttcgg attccccgag 120  
 gaggagtttg atggccacca cttccagaag gttcaagcca tcttccttct ctatgagctg 180

atccagcaga ccttcaatct cttcagcaca aagaactcat ctgctgcttg ggatgagacc 240  
ctcctagaaa aattctacat tgaacttttc cagcaaatga ataacctgga agcatgtgtg 300  
atacaggagg ttgggggtgga agagattgcc ctgatgaatg tggactccat cctggctgtg 360  
aggaaatact tccgaagaat cactctctat ctgacagaga agaaatacag cccttgtgcc 420  
tgaggaggttg tcagagcaga aatcatgaga tctttctctt tttcaacaaa cttgcaaaaa 480  
agattaagga ggaaggaa 498

<210> 28

<211> 498

<212> DNA

<213> Artificial Sequence

<220>

<223> IFNalpha B9x26 coding sequence

<400> 28

tgtgatctgc ctcagaccca cagcctgagt aacaggagga ctctgatgct catggcacaa 60  
atgaggagaa tctctccttt ctctgcctg aaggacagac atgatttcgg attccccgag 120  
gaggagtttg atggccacca cttccagaag actcaagcca tctctgtcct ccatgagctg 180  
atccagcaga ccttcaatct cttcagcaca aagaactcat ctgctgcttg ggatgagacc 240  
ctcctagaaa aattctacat tgaacttttc cagcaaatga ataacctgga agcatgtgtg 300  
atacaggagg ttgggggtgga agagattgcc ctgatgaatg tggactccat cctggctgtg 360  
aggaaatact tccgaagaat cactctctat ctgacaaaga agaaatacag cccttgttcc 420  
tgaggaggttg tcagagcaga aatcatgaga tctttctctt tttcaacaaa cttgcaaaaa 480  
agattaagga ggaaggaa 498

<210> 29

<211> 498

<212> DNA

<213> Artificial Sequence

<220>

<223> IFNalpha B9x27 coding sequence

<400> 29

tgtgatctgc ctcagaccca cagcctgagt aacaggagga ctctgatgct catggcacaa 60  
atgaggagaa tctctccttt ctctgcctg aaggacagac atgatttcgg attccccgag 120  
gaggagtttg atggccacca gttccagaag gttcaagcca tcttccttct ctatgagctg 180  
atccagcaga ccttcaatct cttcagcaca aagaactcat ctgctgcttg ggatgagacc 240  
ctcctagaaa aattctacat tgaacttttc cagcaaatga ataacctgga agcatgtgtg 300  
atacaggagg ttgggggtgga agagattgcc ctgatgaatg tggactccat cctggctgtg 360

aggaaatact tccgaagaat cactctctat ctgacaaaga agaaatacag cccttggtcc 420  
 tgggaggttg tcagagcaga aatcatgaga tctttctctt tttcaacaaa cttgcaaaaa 480  
 agattaagga ggaaggaa 498

<210> 30

<211> 498

<212> DNA

<213> Artificial Sequence

<220>

<223> IFNalpha B9x28 coding sequence

<400> 30

tgtgatctgc ctcagacca cagcctgagt aacaggagga ctctgatgct catggcacia 60  
 atgaggagaa tctctccttt ctctgcctg aaggacagac atgatttcgg attccccgag 120  
 gaggagtttg atggccacca cttccagaag gttcaagcca tcttccttct ctatgagctg 180  
 atccagcaga ctttcaatct cttcagcaca aagaactcat ctgctgcttg ggatgagacc 240  
 ctctagaaa aattctacat tgaacttttc cagcaaata gaacactgga agcatgtgtg 300  
 atacaggagg ttgggggtgga agagattgcc ctgatgaatg tggactccat cctggctgtg 360  
 aggaaatact tccgaagaat cactctctat ctgacaaaga agaaatacag cccttggtcc 420  
 tgggaggttg tcagagcaga aatcatgaga tctttctctt tttcaacaaa cttgcaaaaa 480  
 agattaagga ggaaggaa 498

<210> 31

<211> 166

<212> PRT

<213> Homo sapiens

<220>

<223> mature huIFN alpha-1a

<400> 31

Cys	Asp	Leu	Pro	Glu	Thr	His	Ser	Leu	Asp	Asn	Arg	Arg	Thr	Leu	Met
1				5					10					15	
Leu	Leu	Ala	Gln	Met	Ser	Arg	Ile	Ser	Pro	Ser	Ser	Cys	Leu	Met	Asp
			20					25					30		
Arg	His	Asp	Phe	Gly	Phe	Pro	Gln	Glu	Glu	Phe	Asp	Gly	Asn	Gln	Phe
		35					40					45			
Gln	Lys	Ala	Pro	Ala	Ile	Ser	Val	Leu	His	Glu	Leu	Ile	Gln	Gln	Ile
	50					55					60				
Phe	Asn	Leu	Phe	Thr	Thr	Lys	Asp	Ser	Ser	Ala	Ala	Trp	Asp	Glu	Asp

65		70		75		80									
Leu	Leu	Asp	Lys	Phe	Cys	Thr	Glu	Leu	Tyr	Gln	Gln	Leu	Asn	Asp	Leu
				85					90					95	
Glu	Ala	Cys	Val	Met	Gln	Glu	Glu	Arg	Val	Gly	Glu	Thr	Pro	Leu	Met
			100					105						110	
Asn	Ala	Asp	Ser	Ile	Leu	Ala	Val	Lys	Lys	Tyr	Phe	Arg	Arg	Ile	Thr
			115					120						125	
Leu	Tyr	Leu	Thr	Glu	Lys	Lys	Tyr	Ser	Pro	Cys	Ala	Trp	Glu	Val	Val
		130					135					140			
Arg	Ala	Glu	Ile	Met	Arg	Ser	Leu	Ser	Leu	Ser	Thr	Asn	Leu	Gln	Glu
145					150					155				160	
Arg	Leu	Arg	Arg	Lys	Glu										
				165											

<210> 32

<211> 165

<212> PRT

<213> Homo sapiens

<220>

<223> mature huIFN alpha-2b

<400> 32

Cys	Asp	Leu	Pro	Gln	Thr	His	Ser	Leu	Gly	Ser	Arg	Arg	Thr	Leu	Met
1				5					10					15	
Leu	Leu	Ala	Gln	Met	Arg	Arg	Ile	Ser	Leu	Phe	Ser	Cys	Leu	Lys	Asp
			20					25					30		
Arg	His	Asp	Phe	Gly	Phe	Pro	Gln	Glu	Glu	Phe	Gly	Asn	Gln	Phe	Gln
		35					40					45			
Lys	Ala	Glu	Thr	Ile	Pro	Val	Leu	His	Glu	Met	Ile	Gln	Gln	Ile	Phe
	50					55					60				
Asn	Leu	Phe	Ser	Thr	Lys	Asp	Ser	Ser	Ala	Ala	Trp	Asp	Glu	Thr	Leu
65					70				75					80	
Leu	Asp	Lys	Phe	Tyr	Thr	Glu	Leu	Tyr	Gln	Gln	Leu	Asn	Asp	Leu	Glu
			85					90						95	
Ala	Cys	Val	Ile	Gln	Gly	Val	Gly	Val	Thr	Glu	Thr	Pro	Leu	Met	Lys
		100						105					110		
Glu	Asp	Ser	Ile	Leu	Ala	Val	Arg	Lys	Tyr	Phe	Gln	Arg	Ile	Thr	Leu
		115					120					125			
Tyr	Leu	Lys	Glu	Lys	Lys	Tyr	Ser	Pro	Cys	Ala	Trp	Glu	Val	Val	Arg

130	135	140	
Ala Glu Ile Met Arg Ser Phe Ser Leu Ser Thr Asn Leu Gln Glu Ser			
145	150	155	160
Leu Arg Ser Lys Glu			
165			

<210> 33

<211> 166

<212> PRT

<213> Homo sapiens

<220>

<223> mature huIFN alpha-4b

<400> 33

Cys Asp Leu Pro Gln Thr His Ser Leu Gly Asn Arg Arg Ala Leu Ile			
1	5	10	15
Leu Leu Ala Gln Met Gly Arg Ile Ser His Phe Ser Cys Leu Lys Asp			
20	25	30	
Arg His Asp Phe Gly Phe Pro Glu Glu Glu Phe Asp Gly His Gln Phe			
35	40	45	
Gln Lys Thr Gln Ala Ile Ser Val Leu His Glu Met Ile Gln Gln Thr			
50	55	60	
Phe Asn Leu Phe Ser Thr Glu Asp Ser Ser Ala Ala Trp Glu Gln Ser			
65	70	75	80
Leu Leu Glu Lys Phe Ser Thr Glu Leu Tyr Gln Gln Leu Asn Asp Leu			
85	90	95	
Glu Ala Cys Val Ile Gln Glu Val Gly Val Glu Glu Thr Pro Leu Met			
100	105	110	
Asn Val Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr			
115	120	125	
Leu Tyr Leu Thr Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val			
130	135	140	
Arg Ala Glu Ile Met Arg Ser Leu Ser Phe Ser Thr Asn Leu Gln Lys			
145	150	155	160
Arg Leu Arg Arg Lys Asp			
165			

<210> 34

<211> 166  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <223> mature huIFN alpha-5

<400> 34

Cys	Asp	Leu	Pro	Gln	Thr	His	Ser	Leu	Ser	Asn	Arg	Arg	Thr	Leu	Met
1				5					10					15	
Ile	Met	Ala	Gln	Met	Gly	Arg	Ile	Ser	Pro	Phe	Ser	Cys	Leu	Lys	Asp
			20					25					30		
Arg	His	Asp	Phe	Gly	Phe	Pro	Gln	Glu	Glu	Phe	Asp	Gly	Asn	Gln	Phe
		35					40					45			
Gln	Lys	Ala	Gln	Ala	Ile	Ser	Val	Leu	His	Glu	Met	Ile	Gln	Gln	Thr
	50					55					60				
Phe	Asn	Leu	Phe	Ser	Thr	Lys	Asp	Ser	Ser	Ala	Thr	Trp	Asp	Glu	Thr
65					70					75				80	
Leu	Leu	Asp	Lys	Phe	Tyr	Thr	Glu	Leu	Tyr	Gln	Gln	Leu	Asn	Asp	Leu
			85						90					95	
Glu	Ala	Cys	Met	Met	Gln	Glu	Val	Gly	Val	Glu	Asp	Thr	Pro	Leu	Met
			100					105						110	
Asn	Val	Asp	Ser	Ile	Leu	Thr	Val	Arg	Lys	Tyr	Phe	Gln	Arg	Ile	Thr
		115					120					125			
Leu	Tyr	Leu	Thr	Glu	Lys	Lys	Tyr	Ser	Pro	Cys	Ala	Trp	Glu	Val	Val
	130					135					140				
Arg	Ala	Glu	Ile	Met	Arg	Ser	Phe	Ser	Leu	Ser	Ala	Asn	Leu	Gln	Glu
145					150					155				160	
Arg	Leu	Arg	Arg	Lys	Glu										
					165										

<210> 35  
 <211> 166  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <223> mature huIFN alpha-6

<400> 35

Cys Asp Leu Pro Gln Thr His Ser Leu Gly His Arg Arg Thr Met Met  
 1 5 10 15  
 Leu Leu Ala Gln Met Arg Arg Ile Ser Leu Phe Ser Cys Leu Lys Asp  
 20 25 30  
 Arg His Asp Phe Arg Phe Pro Gln Glu Glu Phe Asp Gly Asn Gln Phe  
 35 40 45  
 Gln Lys Ala Glu Ala Ile Ser Val Leu His Glu Val Ile Gln Gln Thr  
 50 55 60  
 Phe Asn Leu Phe Ser Thr Lys Asp Ser Ser Val Ala Trp Asp Glu Arg  
 65 70 75 80  
 Leu Leu Asp Lys Leu Tyr Thr Glu Leu Tyr Gln Gln Leu Asn Asp Leu  
 85 90 95  
 Glu Ala Cys Val Met Gln Glu Val Trp Val Gly Gly Thr Pro Leu Met  
 100 105 110  
 Asn Glu Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr  
 115 120 125  
 Leu Tyr Leu Thr Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val  
 130 135 140  
 Arg Ala Glu Ile Met Arg Ser Phe Ser Ser Ser Arg Asn Leu Gln Glu  
 145 150 155 160  
 Arg Leu Arg Arg Lys Glu  
 165

<210> 36

<211> 166

<212> PRT

<213> Homo sapiens

<220>

<223> mature huIFN alpha-7a

<400> 36

Cys Asp Leu Pro Gln Thr His Ser Leu Arg Asn Arg Arg Ala Leu Ile  
 1 5 10 15  
 Leu Leu Ala Gln Met Gly Arg Ile Ser Pro Phe Ser Cys Leu Lys Asp  
 20 25 30  
 Arg His Glu Phe Arg Phe Pro Glu Glu Phe Asp Gly His Gln Phe  
 35 40 45  
 Gln Lys Thr Gln Ala Ile Ser Val Leu His Glu Met Ile Gln Gln Thr  
 50 55 60





Leu Tyr Leu Thr Glu Lys Lys Tyr Ser Ser Cys Ala Trp Glu Val Val  
 130 135 140  
 Arg Ala Glu Ile Met Arg Ser Phe Ser Leu Ser Ile Asn Leu Gln Lys  
 145 150 155 160  
 Arg Leu Lys Ser Lys Glu  
 165

<210> 38

<211> 166

<212> PRT

<213> Homo sapiens

<220>

<223> mature huIFN alpha-10a

<400> 38

Cys Asp Leu Pro Gln Thr His Ser Leu Gly Asn Arg Arg Ala Leu Ile  
 1 5 10 15  
 Leu Leu Gly Gln Met Gly Arg Ile Ser Pro Phe Ser Cys Leu Lys Asp  
 20 25 30  
 Arg His Asp Phe Arg Ile Pro Gln Glu Glu Phe Asp Gly Asn Gln Phe  
 35 40 45  
 Gln Lys Ala Gln Ala Ile Ser Val Leu His Glu Met Ile Gln Gln Thr  
 50 55 60  
 Phe Asn Leu Phe Ser Thr Glu Asp Ser Ser Ala Ala Trp Glu Gln Ser  
 65 70 75 80  
 Leu Leu Glu Lys Phe Ser Thr Glu Leu Tyr Gln Gln Leu Asn Asp Leu  
 85 90 95  
 Glu Ala Cys Val Ile Gln Glu Val Gly Val Glu Glu Thr Pro Leu Met  
 100 105 110  
 Asn Glu Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr  
 115 120 125  
 Leu Tyr Leu Ile Glu Arg Lys Tyr Ser Pro Cys Ala Trp Glu Val Val  
 130 135 140  
 Arg Ala Glu Ile Met Arg Ser Leu Ser Phe Ser Thr Asn Leu Gln Lys  
 145 150 155 160  
 Arg Leu Arg Arg Lys Asp  
 165

<210> 39  
 <211> 166  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <223> mature huIFN alpha-14a

<400> 39  
 Cys Asn Leu Ser Gln Thr His Ser Leu Asn Asn Arg Arg Thr Leu Met  
 1 5 10 15  
 Leu Met Ala Gln Met Arg Arg Ile Ser Pro Phe Ser Cys Leu Lys Asp  
 20 25 30  
 Arg His Asp Phe Glu Phe Pro Gln Glu Glu Phe Asp Gly Asn Gln Phe  
 35 40 45  
 Gln Lys Ala Gln Ala Ile Ser Val Leu His Glu Met Met Gln Gln Thr  
 50 55 60  
 Phe Asn Leu Phe Ser Thr Lys Asn Ser Ser Ala Ala Trp Asp Glu Thr  
 65 70 75 80  
 Leu Leu Glu Lys Phe Tyr Ile Glu Leu Phe Gln Gln Met Asn Asp Leu  
 85 90 95  
 Glu Ala Cys Val Ile Gln Glu Val Gly Val Glu Glu Thr Pro Leu Met  
 100 105 110  
 Asn Glu Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr  
 115 120 125  
 Leu Tyr Leu Met Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val  
 130 135 140  
 Arg Ala Glu Ile Met Arg Ser Phe Ser Phe Thr Asn Leu Gln Lys  
 145 150 155 160  
 Arg Leu Arg Arg Lys Asp  
 165

<210> 40  
 <211> 166  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <223> mature huIFN alpha-16

<400> 40

Cys Asp Leu Pro Gln Thr His Ser Leu Gly Asn Arg Arg Ala Leu Ile  
1 5 10 15  
Leu Leu Ala Gln Met Gly Arg Ile Ser His Phe Ser Cys Leu Lys Asp  
20 25 30  
Arg Tyr Asp Phe Gly Phe Pro Gln Glu Val Phe Asp Gly Asn Gln Phe  
35 40 45  
Gln Lys Ala Gln Ala Ile Ser Ala Phe His Glu Met Ile Gln Gln Thr  
50 55 60  
Phe Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr  
65 70 75 80  
Leu Leu Asp Lys Phe Tyr Ile Glu Leu Phe Gln Gln Leu Asn Asp Leu  
85 90 95  
Glu Ala Cys Val Thr Gln Glu Val Gly Val Glu Glu Ile Ala Leu Met  
100 105 110  
Asn Glu Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr  
115 120 125  
Leu Tyr Leu Met Gly Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val  
130 135 140  
Arg Ala Glu Ile Met Arg Ser Phe Ser Phe Ser Thr Asn Leu Gln Lys  
145 150 155 160  
Gly Leu Arg Arg Lys Asp  
165

<210> 41

<211> 166

<212> PRT

<213> Homo sapiens

<220>

<223> mature huIFN alpha-17b

<400> 41

Cys Asp Leu Pro Gln Thr His Ser Leu Gly Asn Arg Arg Ala Leu Ile  
1 5 10 15  
Leu Leu Ala Gln Met Gly Arg Ile Ser Pro Phe Ser Cys Leu Lys Asp  
20 25 30  
Arg His Asp Phe Gly Leu Pro Gln Glu Glu Phe Asp Gly Asn Gln Phe  
35 40 45  
Gln Lys Thr Gln Ala Ile Ser Val Leu His Glu Met Ile Gln Gln Thr

50		55		60
Phe Asn Leu Phe Ser Thr Glu Asp Ser Ser Ala Ala Trp Glu Gln Ser				
65		70		80
Leu Leu Glu Lys Phe Ser Thr Glu Leu Tyr Gln Gln Leu Asn Asn Leu				
	85		90	95
Glu Ala Cys Val Ile Gln Glu Val Gly Met Glu Glu Thr Pro Leu Met				
	100		105	110
Asn Glu Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr				
	115		120	125
Leu Tyr Leu Thr Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val				
	130		135	140
Arg Ala Glu Ile Met Arg Ser Leu Ser Phe Ser Thr Asn Leu Gln Lys				
	145		150	155
Ile Leu Arg Arg Lys Asp				160
	165			

<210> 42

<211> 166

<212> PRT

<213> Homo sapiens

<220>

<223> mature huIFN alpha-21

<400> 42

Cys Asp Leu Pro Gln Thr His Ser Leu Gly Asn Arg Arg Ala Leu Ile			
1	5	10	15
Leu Leu Ala Gln Met Gly Arg Ile Ser Pro Phe Ser Cys Leu Lys Asp			
	20	25	30
Arg His Asp Phe Gly Phe Pro Gln Glu Glu Phe Asp Gly Asn Gln Phe			
	35	40	45
Gln Lys Ala Gln Ala Ile Ser Val Leu His Glu Met Ile Gln Gln Thr			
	50	55	60
Phe Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Thr Trp Glu Gln Ser			
	65	70	75
Leu Leu Glu Lys Phe Ser Thr Glu Leu Asn Gln Gln Leu Asn Asp Leu			
	85	90	95
Glu Ala Cys Val Ile Gln Glu Val Gly Val Glu Glu Thr Pro Leu Met			
	100	105	110
Asn Val Asp Ser Ile Leu Ala Val Lys Lys Tyr Phe Gln Arg Ile Thr			

Asn Val Asp Ser Ile Leu Ala Val Lys Lys Tyr Phe Gln Arg Ile Thr  
           115                          120                          125  
 Leu Tyr Leu Thr Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val  
           130                          135                          140  
 Arg Ala Glu Ile Met Arg Ser Phe Ser Leu Ser Lys Ile Phe Gln Glu  
 145                          150                          155                          160  
 Arg Leu Arg Arg Lys Glu  
                           165

<210> 43

<211> 166

<212> PRT

<213> Artificial Sequence

<220>

<223> IFNalpha-Con1

<400> 43

Cys Asp Leu Pro Gln Thr His Ser Leu Gly Asn Arg Arg Ala Leu Ile  
   1                          5                          10                          15  
 Leu Leu Ala Gln Met Arg Arg Ile Ser Pro Phe Ser Cys Leu Lys Asp  
                           20                          25                          30  
 Arg His Asp Phe Gly Phe Pro Gln Glu Glu Phe Asp Gly Asn Gln Phe  
                           35                          40                          45  
 Gln Lys Ala Gln Ala Ile Ser Val Leu His Glu Met Ile Gln Gln Thr  
                           50                          55                          60  
 Phe Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Ser  
 65                          70                          75                          80  
 Leu Leu Glu Lys Phe Tyr Thr Glu Leu Tyr Gln Gln Leu Asn Asp Leu  
                           85                          90                          95  
 Glu Ala Cys Val Ile Gln Glu Val Gly Val Glu Glu Thr Pro Leu Met  
                           100                          105                          110  
 Asn Val Asp Ser Ile Leu Ala Val Lys Lys Tyr Phe Gln Arg Ile Thr  
                           115                          120                          125  
 Leu Tyr Leu Thr Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val  
                           130                          135                          140  
 Arg Ala Glu Ile Met Arg Ser Phe Ser Leu Ser Thr Asn Leu Gln Glu  
 145                          150                          155                          160  
 Arg Leu Arg Arg Lys Glu  
                           165

<210> 44  
 <211> 166  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> IFNalpha B9x14C2a

<400> 44  
 Cys Asp Leu Pro Gln Thr His Ser Leu Gly His Arg Arg Thr Met Met  
 1 5 10 15  
 Leu Leu Ala Gln Met Arg Arg Ile Ser Leu Phe Ser Cys Leu Lys Asp  
 20 25 30  
 Arg His Asp Phe Arg Phe Pro Gln Glu Glu Phe Asp Gly Asn His Phe  
 35 40 45  
 Gln Lys Val Gln Ala Ile Phe Leu Phe Tyr Glu Met Met Gln Gln Thr  
 50 55 60  
 Phe Asn Leu Phe Ser Thr Lys Asn Ser Ser Ala Ala Trp Asp Glu Thr  
 65 70 75 80  
 Leu Leu Glu Lys Phe Tyr Ile Glu Leu Phe Gln Gln Met Asn Asp Leu  
 85 90 95  
 Glu Ala Cys Val Met Gln Glu Val Gly Val Glu Glu Thr Pro Leu Met  
 100 105 110  
 Asn Val Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr  
 115 120 125  
 Leu Tyr Leu Thr Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val  
 130 135 140  
 Arg Ala Glu Ile Met Arg Ser Phe Ser Leu Ser Thr Asn Leu Gln Glu  
 145 150 155 160  
 Ser Leu Arg Ser Lys Glu  
 165

<210> 45  
 <211> 167  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> IFNalpha B9x14CHO1

<400> 45

Cys Asp Leu Pro Gln Thr His Ser Leu Gly His Arg Arg Thr Met Met  
1 5 10 15  
Leu Leu Ala Gln Met Arg Arg Ile Ser Leu Phe Ser Cys Leu Lys Asp  
20 25 30  
Arg His Asp Phe Arg Phe Pro Gln Glu Glu Phe Asp Gly Asn His Phe  
35 40 45  
Gln Lys Val Gln Ala Ile Phe Leu Phe Tyr Glu Met Met Gln Gln Thr  
50 55 60  
Phe Asn Leu Phe Ser Thr Lys Asn Ser Ser Ala Ala Trp Asp Glu Thr  
65 70 75 80  
Leu Leu Glu Lys Phe Tyr Ile Glu Leu Phe Gln Gln Met Asn Asp Leu  
85 90 95  
Glu Ala Cys Val Met Gln Glu Val Gly Val Glu Glu Thr Pro Leu Met  
100 105 110  
Asn Val Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr  
115 120 125  
Leu Tyr Leu Thr Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val  
130 135 140  
Arg Ala Glu Ile Met Arg Ser Phe Ser Phe Ser Thr Asn Leu Gln Lys  
145 150 155 160  
Arg Leu Arg Arg Lys Glu Cys  
165

<210> 46

<211> 166

<212> PRT

<213> Artificial Sequence

<220>

<223> IFNalpha B9x14CHO3

<400> 46

Cys Asp Leu Pro Gln Thr His Ser Leu Gly His Arg Arg Thr Met Met  
1 5 10 15  
Leu Leu Ala Gln Met Arg Arg Ile Ser Leu Phe Ser Cys Leu Lys Asp  
20 25 30  
Arg His Asp Phe Arg Phe Pro Gln Glu Glu Phe Asp Gly Asn His Phe  
35 40 45



Gln Lys Val Gln Ala Ile Phe Leu Phe Tyr Glu Met Met Gln Gln Thr  
 50 55 60  
 Phe Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr  
 65 70 75 80  
 Leu Leu Glu Lys Phe Tyr Ile Glu Leu Phe Gln Gln Met Asn Asp Leu  
 85 90 95  
 Glu Ala Cys Val Met Gln Glu Val Gly Val Glu Glu Thr Pro Leu Met  
 100 105 110  
 Asn Val Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr  
 115 120 125  
 Leu Tyr Leu Thr Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val  
 130 135 140  
 Arg Ala Glu Ile Met Arg Ser Phe Ser Phe Ser Thr Asn Leu Gln Lys  
 145 150 155 160  
 Arg Leu Arg Arg Lys Glu  
 165

<210> 47

<211> 166

<212> PRT

<213> Artificial Sequence

<220>

<223> IFNalpha B9x14CHO4

<400> 47

Cys Asp Leu Pro Gln Thr His Ser Leu Gly His Arg Arg Thr Met Met  
 1 5 10 15  
 Leu Leu Ala Gln Met Arg Arg Ile Ser Leu Phe Ser Cys Leu Lys Asp  
 20 25 30  
 Arg His Asp Phe Arg Phe Pro Gln Glu Glu Phe Asp Gly Asn His Phe  
 35 40 45  
 Gln Lys Val Gln Ala Ile Phe Leu Phe Tyr Glu Met Met Gln Gln Thr  
 50 55 60  
 Phe Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr  
 65 70 75 80  
 Leu Leu Glu Lys Phe Tyr Ile Glu Leu Phe Gln Gln Met Asn Asp Leu  
 85 90 95  
 Glu Ala Cys Val Met Gln Glu Val Gly Val Glu Glu Thr Pro Leu Met  
 100 105 110

Asn Val Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr  
           115                          120                          125  
 Leu Tyr Leu Thr Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val  
           130                          135                          140  
 Arg Ala Glu Ile Met Arg Ser Phe Ser Phe Ser Thr Asn Leu Gln Glu  
 145                          150                          155                          160  
 Ser Leu Arg Ser Lys Glu  
                           165

<210> 48

<211> 166

<212> PRT

<213> Artificial Sequence

<220>

<223> IFNalpha B9x14CH05

<400> 48

Cys Asp Leu Pro Gln Thr His Ser Leu Gly His Arg Arg Thr Met Met  
   1                          5                          10                          15  
 Leu Leu Ala Gln Met Arg Arg Ile Ser Leu Phe Ser Cys Leu Lys Asp  
           20                          25                          30  
 Arg His Asp Phe Arg Phe Pro Gln Glu Glu Phe Asp Gly Asn His Phe  
           35                          40                          45  
 Gln Lys Val Gln Ala Ile Phe Leu Phe Tyr Glu Met Met Gln Gln Thr  
           50                          55                          60  
 Phe Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr  
 65                          70                          75                          80  
 Leu Leu Glu Lys Phe Tyr Ile Glu Leu Phe Gln Gln Met Asn Asp Leu  
           85                          90                          95  
 Glu Ala Cys Val Met Gln Glu Val Gly Val Glu Glu Thr Pro Leu Met  
           100                          105                          110  
 Asn Val Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr  
           115                          120                          125  
 Leu Tyr Leu Thr Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val  
           130                          135                          140  
 Arg Ala Glu Ile Met Arg Ser Phe Ser Phe Ser Thr Asn Leu Gln Glu  
 145                          150                          155                          160  
 Cys Leu Arg Ser Lys Glu  
                           165

<210> 49  
 <211> 166  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> IFNalpha B9x14CHO6

<400> 49  
 Cys Asp Leu Pro Gln Thr His Ser Leu Gly His Arg Arg Thr Met Met  
 1 5 10 15  
 Leu Leu Ala Gln Met Arg Arg Ile Ser Leu Phe Ser Cys Leu Lys Asp  
 20 25 30  
 Arg His Asp Phe Arg Phe Pro Gln Glu Glu Phe Asp Gly Asn His Phe  
 35 40 45  
 Gln Lys Val Gln Ala Ile Phe Leu Phe Tyr Glu Met Met Gln Gln Thr  
 50 55 60  
 Phe Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr  
 65 70 75 80  
 Leu Leu Glu Lys Phe Tyr Ile Glu Leu Phe Gln Gln Met Asn Asp Leu  
 85 90 95  
 Glu Ala Cys Val Met Gln Glu Val Gly Val Glu Glu Thr Pro Leu Met  
 100 105 110  
 Asn Val Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr  
 115 120 125  
 Leu Tyr Leu Thr Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val  
 130 135 140  
 Arg Ala Glu Ile Met Arg Ser Phe Ser Phe Ser Thr Asn Leu Gln Glu  
 145 150 155 160  
 Ser Leu Arg Cys Lys Glu  
 165

<210> 50  
 <211> 166  
 <212> PRT  
 <213> Artificial Sequence

<220>

<223> IFNalpha 14Ep01

<400> 50

Cys Asp Leu Pro Gln Thr His Ser Leu Gly His Arg Arg Thr Met Met  
1 5 10 15  
Leu Leu Ala Gln Met Arg Arg Ile Ser Leu Phe Ser Cys Leu Lys Asp  
20 25 30  
Arg His Asp Phe Arg Phe Pro Gln Glu Glu Phe Asp Gly Asn Gln Phe  
35 40 45  
Gln Lys Ala Gln Ala Ile Ser Val Leu His Glu Met Met Gln Gln Thr  
50 55 60  
Phe Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr  
65 70 75 80  
Leu Leu Glu Lys Phe Tyr Ile Glu Leu Phe Gln Gln Met Asn Asp Leu  
85 90 95  
Glu Ala Cys Val Met Gln Glu Val Gly Val Glu Glu Thr Pro Leu Met  
100 105 110  
Asn Val Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr  
115 120 125  
Leu Tyr Leu Thr Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val  
130 135 140  
Arg Ala Glu Ile Met Arg Ser Phe Ser Leu Ser Thr Asn Leu Gln Glu  
145 150 155 160  
Ser Leu Arg Ser Lys Glu  
165

<210> 51

<211> 166

<212> PRT

<213> Artificial Sequence

<220>

<223> IFNalpha 14Ep02

<400> 51

Cys Asp Leu Pro Gln Thr His Ser Leu Gly His Arg Arg Thr Met Met  
1 5 10 15  
Leu Leu Ala Gln Met Arg Arg Ile Ser Leu Phe Ser Cys Leu Lys Asp  
20 25 30  
Arg His Asp Phe Arg Phe Pro Gln Glu Glu Phe Asp Gly Asn His Phe

35	40	45
Gln Lys Val Gln Ala Ile Phe Leu Phe Tyr Glu Met Ile Gln Gln Thr		
50	55	60
Phe Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr		
65	70	75
Leu Leu Asp Lys Phe Tyr Ile Glu Leu Phe Gln Gln Leu Asn Asp Leu		
85	90	95
Glu Ala Cys Val Thr Gln Glu Val Gly Val Glu Glu Ile Ala Leu Met		
100	105	110
Asn Glu Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr		
115	120	125
Leu Tyr Leu Thr Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val		
130	135	140
Arg Ala Glu Ile Met Arg Ser Phe Ser Leu Ser Thr Asn Leu Gln Glu		
145	150	155
Ser Leu Arg Ser Lys Glu		160
165		

<210> 52

<211> 166

<212> PRT

<213> Artificial Sequence

<220>

<223> IFNalpha 14Ep03

<400> 52

Cys Asp Leu Pro Gln Thr His Ser Leu Gly His Arg Arg Thr Met Met		
1	5	10
Leu Leu Ala Gln Met Arg Arg Ile Ser Leu Phe Ser Cys Leu Lys Asp		
20	25	30
Arg His Asp Phe Arg Phe Pro Gln Glu Glu Phe Asp Gly Asn His Phe		
35	40	45
Gln Lys Val Gln Ala Ile Phe Leu Phe Tyr Glu Met Met Gln Gln Thr		
50	55	60
Phe Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr		
65	70	75
Leu Leu Glu Lys Phe Tyr Ile Glu Leu Phe Gln Gln Met Asn Asp Leu		
85	90	95
Glu Ala Cys Val Ile Gln Glu Val Gly Val Glu Glu Thr Pro Leu Met		

100	105	110
Asn Val Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr		
115	120	125
Leu Tyr Leu Thr Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val		
130	135	140
Arg Ala Glu Ile Met Arg Ser Phe Ser Leu Ser Thr Asn Leu Gln Glu		
145	150	155
Ser Leu Arg Ser Lys Glu		160
165		

<210> 53

<211> 166

<212> PRT

<213> Artificial Sequence

<220>

<223> IFNalpha 14Ep04

<400> 53

Cys Asp Leu Pro Gln Thr His Ser Leu Gly His Arg Arg Thr Met Met		
1	5	10
Leu Leu Ala Gln Met Arg Arg Ile Ser Leu Phe Ser Cys Leu Lys Asp		
20	25	30
Arg His Asp Phe Arg Phe Pro Gln Glu Glu Phe Asp Gly Asn His Phe		
35	40	45
Gln Lys Val Gln Ala Ile Phe Leu Phe Tyr Glu Met Met Gln Gln Thr		
50	55	60
Phe Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr		
65	70	75
Leu Leu Glu Lys Phe Tyr Ile Glu Leu Phe Gln Gln Met Asn Asp Leu		
85	90	95
Glu Ala Cys Val Met Gln Glu Val Gly Val Glu Glu Thr Pro Leu Met		
100	105	110
Asn Val Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr		
115	120	125
Leu Tyr Leu Thr Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val		
130	135	140
Arg Ala Glu Ile Met Arg Ser Phe Ser Leu Ser Thr Asn Leu Gln Glu		
145	150	155
Ser Leu Arg Ser Lys Glu		160

165

<210> 54

<211> 166

<212> PRT

<213> Artificial Sequence

<220>

<223> IFNalpha 14Ep05

<400> 54

Cys	Asp	Leu	Pro	Gln	Thr	His	Ser	Leu	Gly	His	Arg	Arg	Thr	Met	Met
1				5					10					15	
Leu	Leu	Ala	Gln	Met	Arg	Arg	Ile	Ser	Leu	Phe	Ser	Cys	Leu	Lys	Asp
			20					25					30		
Arg	His	Asp	Phe	Arg	Phe	Pro	Gln	Glu	Glu	Phe	Asp	Gly	Asn	Gln	Phe
			35				40					45			
Gln	Lys	Ala	Gln	Ala	Ile	Ser	Val	Leu	His	Glu	Met	Met	Gln	Gln	Thr
	50					55					60				
Phe	Asn	Leu	Phe	Ser	Thr	Lys	Asp	Ser	Ser	Ala	Ala	Trp	Asp	Glu	Thr
65					70					75				80	
Leu	Leu	Glu	Lys	Phe	Tyr	Ile	Glu	Leu	Phe	Gln	Gln	Met	Asn	Asp	Leu
				85					90					95	
Glu	Ala	Cys	Val	Ile	Gln	Glu	Val	Gly	Val	Glu	Glu	Thr	Pro	Leu	Met
		100						105					110		
Asn	Val	Asp	Ser	Ile	Leu	Ala	Val	Arg	Lys	Tyr	Phe	Gln	Arg	Ile	Thr
		115						120					125		
Leu	Tyr	Leu	Thr	Glu	Lys	Lys	Tyr	Ser	Pro	Cys	Ala	Trp	Glu	Val	Val
	130					135					140				
Arg	Ala	Glu	Ile	Met	Arg	Ser	Phe	Ser	Leu	Ser	Thr	Asn	Leu	Gln	Glu
145					150					155				160	
Ser	Leu	Arg	Ser	Lys	Glu										
					165										

<210> 55

<211> 166

<212> PRT

<213> Artificial Sequence

<220>

<223> IFNalpha 14EF

<400> 55

Cys Asp Leu Pro Gln Thr His Ser Leu Gly His Arg Arg Thr Met Met  
1 5 10 15  
Leu Leu Ala Gln Met Arg Arg Ile Ser Leu Phe Ser Cys Leu Lys Asp  
20 25 30  
Arg His Asp Phe Arg Phe Pro Gln Glu Glu Phe Asp Gly Asn Gln Phe  
35 40 45  
Gln Lys Ala Gln Ala Ile Ser Val Leu His Glu Met Ile Gln Gln Thr  
50 55 60  
Phe Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr  
65 70 75 80  
Leu Leu Asp Lys Phe Tyr Ile Glu Leu Phe Gln Gln Leu Asn Asp Leu  
85 90 95  
Glu Ala Cys Val Thr Gln Glu Val Gly Val Glu Glu Ile Ala Leu Met  
100 105 110  
Asn Glu Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr  
115 120 125  
Leu Tyr Leu Thr Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val  
130 135 140  
Arg Ala Glu Ile Met Arg Ser Phe Ser Leu Ser Thr Asn Leu Gln Glu  
145 150 155 160  
Ser Leu Arg Ser Lys Glu  
165

<210> 56

<211> 166

<212> PRT

<213> Artificial Sequence

<220>

<223> IFNalpha B9x14EP04C31

<400> 56

Cys Asp Leu Pro Gln Thr His Ser Leu Gly His Arg Arg Thr Met Met  
1 5 10 15  
Leu Leu Ala Gln Met Arg Arg Ile Ser Leu Phe Ser Cys Leu Cys Asp  
20 25 30



Arg His Asp Phe Arg Phe Pro Gln Glu Glu Phe Asp Gly Asn His Phe  
 35 40 45  
 Gln Lys Val Gln Ala Ile Phe Leu Phe Tyr Glu Met Met Gln Gln Thr  
 50 55 60  
 Phe Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr  
 65 70 75 80  
 Leu Leu Glu Lys Phe Tyr Ile Glu Leu Phe Gln Gln Met Asn Asp Leu  
 85 90 95  
 Glu Ala Cys Val Met Gln Glu Val Gly Val Glu Glu Thr Pro Leu Met  
 100 105 110  
 Asn Val Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr  
 115 120 125  
 Leu Tyr Leu Thr Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val  
 130 135 140  
 Arg Ala Glu Ile Met Arg Ser Phe Ser Leu Ser Thr Asn Leu Gln Glu  
 145 150 155 160  
 Ser Leu Arg Ser Lys Glu  
 165

<210> 57

<211> 166

<212> PRT

<213> Artificial Sequence

<220>

<223> IFNalpha B9x14CH04C31

<400> 57

Cys Asp Leu Pro Gln Thr His Ser Leu Gly His Arg Arg Thr Met Met  
 1 5 10 15  
 Leu Leu Ala Gln Met Arg Arg Ile Ser Leu Phe Ser Cys Leu Cys Asp  
 20 25 30  
 Arg His Asp Phe Arg Phe Pro Gln Glu Glu Phe Asp Gly Asn His Phe  
 35 40 45  
 Gln Lys Val Gln Ala Ile Phe Leu Phe Tyr Glu Met Met Gln Gln Thr  
 50 55 60  
 Phe Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr  
 65 70 75 80  
 Leu Leu Glu Lys Phe Tyr Ile Glu Leu Phe Gln Gln Met Asn Asp Leu  
 85 90 95

Glu Ala Cys Val Met Gln Glu Val Gly Val Glu Glu Thr Pro Leu Met  
                   100                                  105                                  110  
 Asn Val Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr  
                   115                                  120                                  125  
 Leu Tyr Leu Thr Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val  
                   130                                  135                                  140  
 Arg Ala Glu Ile Met Arg Ser Phe Ser Phe Ser Thr Asn Leu Gln Glu  
 145                                  150                                  155                                  160  
 Ser Leu Arg Ser Lys Glu  
                                   165

<210> 58

<211> 166

<212> PRT

<213> Artificial Sequence

<220>

<223> IFNalpha B9x14CH04C46

<400> 58

Cys Asp Leu Pro Gln Thr His Ser Leu Gly His Arg Arg Thr Met Met  
   1                                  5                                  10                                  15  
 Leu Leu Ala Gln Met Arg Arg Ile Ser Leu Phe Ser Cys Leu Lys Asp  
                   20                                  25                                  30  
 Arg His Asp Phe Arg Phe Pro Gln Glu Glu Phe Asp Gly Cys His Phe  
                   35                                  40                                  45  
 Gln Lys Val Gln Ala Ile Phe Leu Phe Tyr Glu Met Met Gln Gln Thr  
                   50                                  55                                  60  
 Phe Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr  
 65                                  70                                  75                                  80  
 Leu Leu Glu Lys Phe Tyr Ile Glu Leu Phe Gln Gln Met Asn Asp Leu  
                                   85                                  90                                  95  
 Glu Ala Cys Val Met Gln Glu Val Gly Val Glu Glu Thr Pro Leu Met  
                   100                                  105                                  110  
 Asn Val Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr  
                   115                                  120                                  125  
 Leu Tyr Leu Thr Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val  
                   130                                  135                                  140  
 Arg Ala Glu Ile Met Arg Ser Phe Ser Phe Ser Thr Asn Leu Gln Glu  
 145                                  150                                  155                                  160

Ser Leu Arg Ser Lys Glu

165

<210> 59

<211> 166

<212> PRT

<213> Artificial Sequence

<220>

<223> IFNalpha B9x14CH04C71

<400> 59

Cys	Asp	Leu	Pro	Gln	Thr	His	Ser	Leu	Gly	His	Arg	Arg	Thr	Met	Met
1				5					10					15	
Leu	Leu	Ala	Gln	Met	Arg	Arg	Ile	Ser	Leu	Phe	Ser	Cys	Leu	Lys	Asp
			20					25					30		
Arg	His	Asp	Phe	Arg	Phe	Pro	Gln	Glu	Glu	Phe	Asp	Gly	Asn	His	Phe
		35					40					45			
Gln	Lys	Val	Gln	Ala	Ile	Phe	Leu	Phe	Tyr	Glu	Met	Met	Gln	Gln	Thr
	50					55					60				
Phe	Asn	Leu	Phe	Ser	Thr	Cys	Asp	Ser	Ser	Ala	Ala	Trp	Asp	Glu	Thr
65					70					75				80	
Leu	Leu	Glu	Lys	Phe	Tyr	Ile	Glu	Leu	Phe	Gln	Gln	Met	Asn	Asp	Leu
				85					90					95	
Glu	Ala	Cys	Val	Met	Gln	Glu	Val	Gly	Val	Glu	Glu	Thr	Pro	Leu	Met
			100						105					110	
Asn	Val	Asp	Ser	Ile	Leu	Ala	Val	Arg	Lys	Tyr	Phe	Gln	Arg	Ile	Thr
		115							120					125	
Leu	Tyr	Leu	Thr	Glu	Lys	Lys	Tyr	Ser	Pro	Cys	Ala	Trp	Glu	Val	Val
		130					135					140			
Arg	Ala	Glu	Ile	Met	Arg	Ser	Phe	Ser	Phe	Ser	Thr	Asn	Leu	Gln	Glu
145					150					155				160	
Ser	Leu	Arg	Ser	Lys	Glu										
					165										

<210> 60

<211> 166

<212> PRT

<213> Artificial Sequence

<220>

<223> IFNalpha B9x14CH04C75

<400> 60

Cys Asp Leu Pro Gln Thr His Ser Leu Gly His Arg Arg Thr Met Met  
1 5 10 15  
Leu Leu Ala Gln Met Arg Arg Ile Ser Leu Phe Ser Cys Leu Lys Asp  
20 25 30  
Arg His Asp Phe Arg Phe Pro Gln Glu Glu Phe Asp Gly Asn His Phe  
35 40 45  
Gln Lys Val Gln Ala Ile Phe Leu Phe Tyr Glu Met Met Gln Gln Thr  
50 55 60  
Phe Asn Leu Phe Ser Thr Lys Asp Ser Ser Cys Ala Trp Asp Glu Thr  
65 70 75 80  
Leu Leu Glu Lys Phe Tyr Ile Glu Leu Phe Gln Gln Met Asn Asp Leu  
85 90 95  
Glu Ala Cys Val Met Gln Glu Val Gly Val Glu Glu Thr Pro Leu Met  
100 105 110  
Asn Val Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr  
115 120 125  
Leu Tyr Leu Thr Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val  
130 135 140  
Arg Ala Glu Ile Met Arg Ser Phe Ser Phe Ser Thr Asn Leu Gln Glu  
145 150 155 160  
Ser Leu Arg Ser Lys Glu  
165

<210> 61

<211> 166

<212> PRT

<213> Artificial Sequence

<220>

<223> IFNalpha B9x14CH04C79

<400> 61

Cys Asp Leu Pro Gln Thr His Ser Leu Gly His Arg Arg Thr Met Met  
1 5 10 15  
Leu Leu Ala Gln Met Arg Arg Ile Ser Leu Phe Ser Cys Leu Lys Asp

20	25	30
Arg His Asp Phe Arg Phe Pro Gln Glu Glu Phe Asp Gly Asn His Phe		
35	40	45
Gln Lys Val Gln Ala Ile Phe Leu Phe Tyr Glu Met Met Gln Gln Thr		
50	55	60
Phe Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Cys Thr		
65	70	75
Leu Leu Glu Lys Phe Tyr Ile Glu Leu Phe Gln Gln Met Asn Asp Leu		
85	90	95
Glu Ala Cys Val Met Gln Glu Val Gly Val Glu Glu Thr Pro Leu Met		
100	105	110
Asn Val Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr		
115	120	125
Leu Tyr Leu Thr Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val		
130	135	140
Arg Ala Glu Ile Met Arg Ser Phe Ser Phe Ser Thr Asn Leu Gln Glu		
145	150	155
Ser Leu Arg Ser Lys Glu		160
165		

<210> 62

<211> 166

<212> PRT

<213> Artificial Sequence

<220>

<223> IFNalpha B9x14CH04C107

<400> 62

Cys Asp Leu Pro Gln Thr His Ser Leu Gly His Arg Arg Thr Met Met		
1	5	10
Leu Leu Ala Gln Met Arg Arg Ile Ser Leu Phe Ser Cys Leu Lys Asp		
20	25	30
Arg His Asp Phe Arg Phe Pro Gln Glu Glu Phe Asp Gly Asn His Phe		
35	40	45
Gln Lys Val Gln Ala Ile Phe Leu Phe Tyr Glu Met Met Gln Gln Thr		
50	55	60
Phe Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr		
65	70	75
Leu Leu Glu Lys Phe Tyr Ile Glu Leu Phe Gln Gln Met Asn Asp Leu		80

	85		90		95										
Glu	Ala	Cys	Val	Met	Gln	Glu	Val	Gly	Val	Cys	Glu	Thr	Pro	Leu	Met
	100							105					110		
Asn	Val	Asp	Ser	Ile	Leu	Ala	Val	Arg	Lys	Tyr	Phe	Gln	Arg	Ile	Thr
	115							120					125		
Leu	Tyr	Leu	Thr	Glu	Lys	Lys	Tyr	Ser	Pro	Cys	Ala	Trp	Glu	Val	Val
	130							135					140		
Arg	Ala	Glu	Ile	Met	Arg	Ser	Phe	Ser	Phe	Ser	Thr	Asn	Leu	Gln	Glu
145					150					155					160
Ser	Leu	Arg	Ser	Lys	Glu										
					165										

<210> 63

<211> 166

<212> PRT

<213> Artificial Sequence

<220>

<223> IFNalpha B9x14CH04C122

<400> 63

Cys	Asp	Leu	Pro	Gln	Thr	His	Ser	Leu	Gly	His	Arg	Arg	Thr	Met	Met
1				5					10					15	
Leu	Leu	Ala	Gln	Met	Arg	Arg	Ile	Ser	Leu	Phe	Ser	Cys	Leu	Lys	Asp
			20					25					30		
Arg	His	Asp	Phe	Arg	Phe	Pro	Gln	Glu	Glu	Phe	Asp	Gly	Asn	His	Phe
			35				40						45		
Gln	Lys	Val	Gln	Ala	Ile	Phe	Leu	Phe	Tyr	Glu	Met	Met	Gln	Gln	Thr
	50					55					60				
Phe	Asn	Leu	Phe	Ser	Thr	Lys	Asp	Ser	Ser	Ala	Ala	Trp	Asp	Glu	Thr
65					70					75				80	
Leu	Leu	Glu	Lys	Phe	Tyr	Ile	Glu	Leu	Phe	Gln	Gln	Met	Asn	Asp	Leu
				85					90					95	
Glu	Ala	Cys	Val	Met	Gln	Glu	Val	Gly	Val	Glu	Glu	Thr	Pro	Leu	Met
			100					105					110		
Asn	Val	Asp	Ser	Ile	Leu	Ala	Val	Arg	Cys	Tyr	Phe	Gln	Arg	Ile	Thr
			115					120					125		
Leu	Tyr	Leu	Thr	Glu	Lys	Lys	Tyr	Ser	Pro	Cys	Ala	Trp	Glu	Val	Val
	130						135						140		
Arg	Ala	Glu	Ile	Met	Arg	Ser	Phe	Ser	Phe	Ser	Thr	Asn	Leu	Gln	Glu

145                      150                      155                      160  
 Ser Leu Arg Ser Lys Glu  
                          165

<210> 64  
 <211> 166  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> IFNalpha B9x14CH04C134

<400> 64  
 Cys Asp Leu Pro Gln Thr His Ser Leu Gly His Arg Arg Thr Met Met  
   1                          5                          10                          15  
 Leu Leu Ala Gln Met Arg Arg Ile Ser Leu Phe Ser Cys Leu Lys Asp  
                           20                          25                          30  
 Arg His Asp Phe Arg Phe Pro Gln Glu Glu Phe Asp Gly Asn His Phe  
                           35                          40                          45  
 Gln Lys Val Gln Ala Ile Phe Leu Phe Tyr Glu Met Met Gln Gln Thr  
                           50                          55                          60  
 Phe Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr  
 65                          70                          75                          80  
 Leu Leu Glu Lys Phe Tyr Ile Glu Leu Phe Gln Gln Met Asn Asp Leu  
                           85                          90                          95  
 Glu Ala Cys Val Met Gln Glu Val Gly Val Glu Glu Thr Pro Leu Met  
                           100                          105                          110  
 Asn Val Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr  
                           115                          120                          125  
 Leu Tyr Leu Thr Glu Cys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val  
                           130                          135                          140  
 Arg Ala Glu Ile Met Arg Ser Phe Ser Phe Ser Thr Asn Leu Gln Glu  
 145                          150                          155                          160  
 Ser Leu Arg Ser Lys Glu  
                           165

<210> 65  
 <211> 160  
 <212> PRT

<213> Artificial Sequence

<220>

<223> IFNalpha B9x14Ep04(161-166

<400> 65

Cys	Asp	Leu	Pro	Gln	Thr	His	Ser	Leu	Gly	His	Arg	Arg	Thr	Met	Met
1				5					10					15	
Leu	Leu	Ala	Gln	Met	Arg	Arg	Ile	Ser	Leu	Phe	Ser	Cys	Leu	Lys	Asp
			20					25					30		
Arg	His	Asp	Phe	Arg	Phe	Pro	Gln	Glu	Glu	Phe	Asp	Gly	Asn	His	Phe
		35					40					45			
Gln	Lys	Val	Gln	Ala	Ile	Phe	Leu	Phe	Tyr	Glu	Met	Met	Gln	Gln	Thr
	50					55					60				
Phe	Asn	Leu	Phe	Ser	Thr	Lys	Asp	Ser	Ser	Ala	Ala	Trp	Asp	Glu	Thr
65					70					75				80	
Leu	Leu	Glu	Lys	Phe	Tyr	Ile	Glu	Leu	Phe	Gln	Gln	Met	Asn	Asp	Leu
			85					90					95		
Glu	Ala	Cys	Val	Met	Gln	Glu	Val	Gly	Val	Glu	Glu	Thr	Pro	Leu	Met
		100						105					110		
Asn	Val	Asp	Ser	Ile	Leu	Ala	Val	Arg	Lys	Tyr	Phe	Gln	Arg	Ile	Thr
		115						120					125		
Leu	Tyr	Leu	Thr	Glu	Lys	Lys	Tyr	Ser	Pro	Cys	Ala	Trp	Glu	Val	Val
	130					135					140				
Arg	Ala	Glu	Ile	Met	Arg	Ser	Phe	Ser	Leu	Ser	Thr	Asn	Leu	Gln	Glu
145					150					155				160	

<210> 66

<211> 164

<212> PRT

<213> Artificial Sequence

<220>

<223> IFNalpha B9x14Ep04(165-166

<400> 66

Cys	Asp	Leu	Pro	Gln	Thr	His	Ser	Leu	Gly	His	Arg	Arg	Thr	Met	Met
1				5					10					15	
Leu	Leu	Ala	Gln	Met	Arg	Arg	Ile	Ser	Leu	Phe	Ser	Cys	Leu	Lys	Asp
			20					25					30		



Arg His Asp Phe Arg Phe Pro Gln Glu Glu Phe Asp Gly Asn His Phe  
 35 40 45  
 Gln Lys Val Gln Ala Ile Phe Leu Phe Tyr Glu Met Met Gln Gln Thr  
 50 55 60  
 Phe Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr  
 65 70 75 80  
 Leu Leu Glu Lys Phe Tyr Ile Glu Leu Phe Gln Gln Met Asn Asp Leu  
 85 90 95  
 Glu Ala Cys Val Met Gln Glu Val Gly Val Glu Glu Thr Pro Leu Met  
 100 105 110  
 Asn Val Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr  
 115 120 125  
 Leu Tyr Leu Thr Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val  
 130 135 140  
 Arg Ala Glu Ile Met Arg Ser Phe Ser Leu Ser Thr Asn Leu Gln Glu  
 145 150 155 160  
 Ser Leu Arg Ser

<210> 67

<211> 159

<212> PRT

<213> Artificial Sequence

<220>

<223> IFNalpha B9x14Ep04 (1-4D44\* (161-166

<400> 67

Gln Thr His Ser Leu Gly His Arg Arg Thr Met Met Leu Leu Ala Gln  
 1 5 10 15  
 Met Arg Arg Ile Ser Leu Phe Ser Cys Leu Lys Asp Arg His Asp Phe  
 20 25 30  
 Arg Phe Pro Gln Glu Glu Phe Gly Asn His Phe Gln Lys Val Gln Ala  
 35 40 45  
 Ile Phe Leu Phe Tyr Glu Met Met Gln Gln Thr Phe Asn Leu Phe Ser  
 50 55 60  
 Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr Leu Leu Glu Lys Phe  
 65 70 75 80  
 Tyr Ile Glu Leu Phe Gln Gln Met Asn Asp Leu Glu Ala Cys Val Met  
 85 90 95

Gln Glu Val Gly Val Glu Glu Thr Pro Leu Met Asn Val Asp Ser Ile  
                   100                  105                  110  
 Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr Leu Tyr Leu Thr Glu  
                   115                  120                  125  
 Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val Arg Ala Glu Ile Met  
                   130                  135                  140  
 Arg Ser Phe Ser Leu Ser Thr Asn Leu Gln Glu Ser Leu Arg Ser  
                   145                  150                  155

<210> 68

<211> 166

<212> PRT

<213> Artificial Sequence

<220>

<223> IFNalpha B9x14CHO4NP1

<400> 68

Cys Asp Leu Pro Gln Thr His Ser Leu Gly His Arg Arg Thr Met Met  
   1                  5                  10                  15  
 Leu Leu Ala Gln Met Arg Arg Ile Ser Leu Phe Ser Cys Leu Lys Asp  
                   20                  25                  30  
 Arg Gln Asp Phe Arg Phe Pro Gln Glu Glu Phe Asp Gly Asn His Phe  
                   35                  40                  45  
 Gln Lys Val Gln Ala Ile Phe Leu Phe Tyr Glu Met Met Gln Gln Thr  
                   50                  55                  60  
 Phe Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr  
   65                  70                  75                  80  
 Leu Leu Glu Lys Phe Tyr Ile Glu Leu Phe Gln Gln Met Asn Asp Leu  
                   85                  90                  95  
 Glu Ala Cys Val Met Gln Glu Val Gly Val Glu Glu Thr Pro Leu Met  
                   100                  105                  110  
 Asn Val Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr  
                   115                  120                  125  
 Leu Tyr Leu Thr Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val  
                   130                  135                  140  
 Arg Ala Glu Ile Met Arg Ser Phe Ser Phe Ser Thr Asn Leu Gln Glu  
   145                  150                  155                  160  
 Ser Leu Arg Ser Lys Glu  
                   165

<210> 69

<211> 166

<212> PRT

<213> Artificial Sequence

<220>

<223> IFNalpha B9x14CHO4NP2

<400> 69

Cys	Asp	Leu	Pro	Gln	Thr	His	Ser	Leu	Gly	His	Arg	Arg	Thr	Met	Met
1				5					10					15	
Leu	Leu	Ala	Gln	Met	Arg	Arg	Ile	Ser	Leu	Phe	Ser	Cys	Leu	Lys	Asp
			20					25					30		
Arg	Gln	Asp	Phe	Arg	Phe	Pro	Gln	Glu	Glu	Phe	Asp	Gly	Asn	Gln	Phe
		35					40					45			
Gln	Lys	Val	Gln	Ala	Ile	Phe	Leu	Phe	Tyr	Glu	Met	Met	Gln	Gln	Thr
	50					55					60				
Phe	Asn	Leu	Phe	Ser	Thr	Lys	Asp	Ser	Ser	Ala	Ala	Trp	Asp	Glu	Thr
65					70					75				80	
Leu	Leu	Glu	Lys	Phe	Tyr	Ile	Glu	Leu	Phe	Gln	Gln	Met	Asn	Asp	Leu
			85						90					95	
Glu	Ala	Cys	Val	Met	Gln	Glu	Val	Gly	Val	Glu	Glu	Thr	Pro	Leu	Met
			100					105					110		
Asn	Val	Asp	Ser	Ile	Leu	Ala	Val	Arg	Lys	Tyr	Phe	Gln	Arg	Ile	Thr
	115						120						125		
Leu	Tyr	Leu	Thr	Glu	Lys	Lys	Tyr	Ser	Pro	Cys	Ala	Trp	Glu	Val	Val
	130					135					140				
Arg	Ala	Glu	Ile	Met	Arg	Ser	Phe	Ser	Phe	Ser	Thr	Asn	Leu	Gln	Glu
145					150				155					160	
Ser	Leu	Arg	Ser	Lys	Glu										
				165											

<210> 70

<211> 166

<212> PRT

<213> Artificial Sequence

<220>

<223> IFNalpha B9x14CHO8

<400> 70

Cys Asp Leu Pro Gln Thr His Ser Leu Gly His Arg Arg Thr Met Met  
1 5 10 15  
Leu Leu Ala Gln Met Arg Arg Ile Ser Leu Phe Ser Cys Leu Arg Asp  
20 25 30  
Arg His Asp Phe Arg Phe Pro Gln Glu Glu Phe Asp Gly Asn His Phe  
35 40 45  
Gln Lys Val Gln Ala Ile Phe Leu Phe Tyr Glu Met Met Gln Gln Thr  
50 55 60  
Phe Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr  
65 70 75 80  
Leu Leu Glu Lys Phe Tyr Ile Glu Leu Phe Gln Gln Met Asn Asp Leu  
85 90 95  
Glu Ala Cys Val Met Gln Glu Val Gly Val Glu Glu Thr Pro Leu Met  
100 105 110  
Asn Val Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr  
115 120 125  
Leu Tyr Leu Thr Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val  
130 135 140  
Arg Ala Glu Ile Met Arg Ser Phe Ser Phe Ser Thr Asn Leu Gln Glu  
145 150 155 160  
Ser Leu Arg Ser Lys Glu  
165

<210> 71

<211> 166

<212> PRT

<213> Artificial Sequence

<220>

<223> IFNalpha B9x14CHO9

<400> 71

Cys Asp Leu Pro Gln Thr His Ser Leu Gly His Arg Arg Thr Met Met  
1 5 10 15  
Leu Leu Ala Gln Met Arg Arg Ile Ser Leu Phe Ser Cys Leu Lys Asp  
20 25 30  
Arg His Asp Phe Arg Phe Pro Gln Glu Glu Phe Asp Gly Asn His Phe

35	40	45
Gln Arg Val Gln Ala Ile Phe Leu Phe Tyr Glu Met Met Gln Gln Thr		
50	55	60
Phe Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr		
65	70	75
Leu Leu Glu Lys Phe Tyr Ile Glu Leu Phe Gln Gln Met Asn Asp Leu		
85	90	95
Glu Ala Cys Val Met Gln Glu Val Gly Val Glu Glu Thr Pro Leu Met		
100	105	110
Asn Val Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr		
115	120	125
Leu Tyr Leu Thr Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val		
130	135	140
Arg Ala Glu Ile Met Arg Ser Phe Ser Phe Ser Thr Asn Leu Gln Glu		
145	150	155
Ser Leu Arg Ser Lys Glu		
165		

<210> 72

<211> 166

<212> PRT

<213> Artificial Sequence

<220>

<223> IFNalpha B9x14CHO10

<400> 72

Cys Asp Leu Pro Gln Thr His Ser Leu Gly His Arg Arg Thr Met Met		
1	5	10
Leu Leu Ala Gln Met Arg Arg Ile Ser Leu Phe Ser Cys Leu Lys Asp		
20	25	30
Arg His Asp Phe Arg Phe Pro Gln Glu Glu Phe Asp Gly Asn His Phe		
35	40	45
Gln Lys Val Gln Ala Ile Phe Leu Phe Tyr Glu Met Met Gln Gln Thr		
50	55	60
Phe Asn Leu Phe Ser Thr Arg Asp Ser Ser Ala Ala Trp Asp Glu Thr		
65	70	75
Leu Leu Glu Lys Phe Tyr Ile Glu Leu Phe Gln Gln Met Asn Asp Leu		
85	90	95
Glu Ala Cys Val Met Gln Glu Val Gly Val Glu Glu Thr Pro Leu Met		

100	105	110
Asn Val Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr		
115	120	125
Leu Tyr Leu Thr Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val		
130	135	140
Arg Ala Glu Ile Met Arg Ser Phe Ser Phe Ser Thr Asn Leu Gln Glu		
145	150	155
Ser Leu Arg Ser Lys Glu		160
165		

<210> 73

<211> 166

<212> PRT

<213> Artificial Sequence

<220>

<223> IFNalpha B9x14CHO11

<400> 73

Cys Asp Leu Pro Gln Thr His Ser Leu Gly His Arg Arg Thr Met Met		
1	5	10
Leu Leu Ala Gln Met Arg Arg Ile Ser Leu Phe Ser Cys Leu Lys Asp		
20	25	30
Arg His Asp Phe Arg Phe Pro Gln Glu Glu Phe Asp Gly Asn His Phe		
35	40	45
Gln Lys Val Gln Ala Ile Phe Leu Phe Tyr Glu Met Met Gln Gln Thr		
50	55	60
Phe Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr		
65	70	75
Leu Leu Glu Arg Phe Tyr Ile Glu Leu Phe Gln Gln Met Asn Asp Leu		
85	90	95
Glu Ala Cys Val Met Gln Glu Val Gly Val Glu Glu Thr Pro Leu Met		
100	105	110
Asn Val Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr		
115	120	125
Leu Tyr Leu Thr Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val		
130	135	140
Arg Ala Glu Ile Met Arg Ser Phe Ser Phe Ser Thr Asn Leu Gln Glu		
145	150	155
Ser Leu Arg Ser Lys Glu		160

165

<210> 74

<211> 166

<212> PRT

<213> Artificial Sequence

<220>

<223> IFNalpha B9x14CHO12

<400> 74

Cys	Asp	Leu	Pro	Gln	Thr	His	Ser	Leu	Gly	His	Arg	Arg	Thr	Met	Met
1				5					10					15	
Leu	Leu	Ala	Gln	Met	Arg	Arg	Ile	Ser	Leu	Phe	Ser	Cys	Leu	Lys	Asp
			20					25					30		
Arg	His	Asp	Phe	Arg	Phe	Pro	Gln	Glu	Glu	Phe	Asp	Gly	Asn	His	Phe
		35					40					45			
Gln	Lys	Val	Gln	Ala	Ile	Phe	Leu	Phe	Tyr	Glu	Met	Met	Gln	Gln	Thr
	50					55					60				
Phe	Asn	Leu	Phe	Ser	Thr	Lys	Asp	Ser	Ser	Ala	Ala	Trp	Asp	Glu	Thr
65					70					75				80	
Leu	Leu	Glu	Lys	Phe	Tyr	Ile	Glu	Leu	Phe	Gln	Gln	Met	Asn	Asp	Leu
				85					90					95	
Glu	Ala	Cys	Val	Met	Gln	Glu	Val	Gly	Val	Glu	Glu	Thr	Pro	Leu	Met
		100						105					110		
Asn	Val	Asp	Ser	Ile	Leu	Ala	Val	Arg	Arg	Tyr	Phe	Gln	Arg	Ile	Thr
		115						120					125		
Leu	Tyr	Leu	Thr	Glu	Lys	Lys	Tyr	Ser	Pro	Cys	Ala	Trp	Glu	Val	Val
	130					135					140				
Arg	Ala	Glu	Ile	Met	Arg	Ser	Phe	Ser	Phe	Ser	Thr	Asn	Leu	Gln	Glu
145					150					155				160	
Ser	Leu	Arg	Ser	Lys	Glu										
				165											

<210> 75

<211> 166

<212> PRT

<213> Artificial Sequence

<220>

<223> IFNalpha B9x14CHO13

<400> 75

Cys Asp Leu Pro Gln Thr His Ser Leu Gly His Arg Arg Thr Met Met  
1 5 10 15  
Leu Leu Ala Gln Met Arg Arg Ile Ser Leu Phe Ser Cys Leu Lys Asp  
20 25 30  
Arg His Asp Phe Arg Phe Pro Gln Glu Glu Phe Asp Gly Asn His Phe  
35 40 45  
Gln Lys Val Gln Ala Ile Phe Leu Phe Tyr Glu Met Met Gln Gln Thr  
50 55 60  
Phe Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr  
65 70 75 80  
Leu Leu Glu Lys Phe Tyr Ile Glu Leu Phe Gln Gln Met Asn Asp Leu  
85 90 95  
Glu Ala Cys Val Met Gln Glu Val Gly Val Glu Glu Thr Pro Leu Met  
100 105 110  
Asn Val Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr  
115 120 125  
Leu Tyr Leu Thr Glu Arg Lys Tyr Ser Pro Cys Ala Trp Glu Val Val  
130 135 140  
Arg Ala Glu Ile Met Arg Ser Phe Ser Phe Ser Thr Asn Leu Gln Glu  
145 150 155 160  
Ser Leu Arg Ser Lys Glu  
165

<210> 76

<211> 166

<212> PRT

<213> Artificial Sequence

<220>

<223> IFNalpha B9x14CHO14

<400> 76

Cys Asp Leu Pro Gln Thr His Ser Leu Gly His Arg Arg Thr Met Met  
1 5 10 15  
Leu Leu Ala Gln Met Arg Arg Ile Ser Leu Phe Ser Cys Leu Lys Asp  
20 25 30



Arg	His	Asp	Phe	Arg	Phe	Pro	Gln	Glu	Glu	Phe	Asp	Gly	Asn	His	Phe
	35						40					45			
Gln	Lys	Val	Gln	Ala	Ile	Phe	Leu	Phe	Tyr	Glu	Met	Met	Gln	Gln	Thr
	50						55					60			
Phe	Asn	Leu	Phe	Ser	Thr	Lys	Asp	Ser	Ser	Ala	Ala	Trp	Asp	Glu	Thr
65					70					75				80	
Leu	Leu	Glu	Lys	Phe	Tyr	Ile	Glu	Leu	Phe	Gln	Gln	Met	Asn	Asp	Leu
				85					90					95	
Glu	Ala	Cys	Val	Met	Gln	Glu	Val	Gly	Val	Glu	Glu	Thr	Pro	Leu	Met
			100					105					110		
Asn	Val	Asp	Ser	Ile	Leu	Ala	Val	Arg	Lys	Tyr	Phe	Gln	Arg	Ile	Thr
	115						120					125			
Leu	Tyr	Leu	Thr	Glu	Lys	Arg	Tyr	Ser	Pro	Cys	Ala	Trp	Glu	Val	Val
	130					135					140				
Arg	Ala	Glu	Ile	Met	Arg	Ser	Phe	Ser	Phe	Ser	Thr	Asn	Leu	Gln	Glu
145					150					155				160	
Ser	Leu	Arg	Ser	Lys	Glu										
				165											

<210> 77

<211> 166

<212> PRT

<213> Artificial Sequence

<220>

<223> IFNalpha B9x14CHO15

<400> 77

Cys	Asp	Leu	Pro	Gln	Thr	His	Ser	Leu	Gly	His	Arg	Arg	Thr	Met	Met
1				5					10					15	
Leu	Leu	Ala	Gln	Met	Arg	Arg	Ile	Ser	Leu	Phe	Ser	Cys	Leu	Lys	Asp
			20					25					30		
Arg	His	Asp	Phe	Arg	Phe	Pro	Gln	Glu	Glu	Phe	Asp	Gly	Asn	His	Phe
	35						40					45			
Gln	Lys	Val	Gln	Ala	Ile	Phe	Leu	Phe	Tyr	Glu	Met	Met	Gln	Gln	Thr
	50						55					60			
Phe	Asn	Leu	Phe	Ser	Thr	Lys	Asp	Ser	Ser	Ala	Ala	Trp	Asp	Glu	Thr
65					70					75				80	
Leu	Leu	Glu	Lys	Phe	Tyr	Ile	Glu	Leu	Phe	Gln	Gln	Met	Asn	Asp	Leu
				85					90					95	

Glu Ala Cys Val Met Gln Glu Val Gly Val Glu Glu Thr Pro Leu Met  
                   100                                  105                                  110  
 Asn Val Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr  
                   115                                  120                                  125  
 Leu Tyr Leu Thr Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val  
                   130                                  135                                  140  
 Arg Ala Glu Ile Met Arg Ser Phe Ser Phe Ser Thr Asn Leu Gln Glu  
 145                                  150                                  155                                  160  
 Ser Leu Arg Ser Arg Glu  
                                   165

<210> 78

<211> 166

<212> PRT

<213> Artificial Sequence

<220>

<223> IFNalpha B9x14CHO16

<400> 78

Cys Asp Leu Pro Gln Thr His Ser Leu Gly His Arg Arg Thr Met Met  
   1                                  5                                  10                                  15  
 Leu Leu Ala Gln Met Arg Arg Ile Ser Leu Phe Ser Cys Leu Lys Asp  
                   20                                  25                                  30  
 Arg His Asp Phe Arg Phe Pro Gln Glu Glu Phe Asp Gly Asn His Phe  
                   35                                  40                                  45  
 Gln Lys Val Gln Ala Ile Phe Leu Phe Tyr Glu Met Met Gln Gln Thr  
                   50                                  55                                  60  
 Phe Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr  
 65                                  70                                  75                                  80  
 Leu Leu Glu Lys Phe Tyr Ile Glu Leu Phe Gln Gln Met Asn Asp Leu  
                                   85                                  90                                  95  
 Glu Ala Cys Val Met Gln Glu Val Gly Val Glu Glu Thr Pro Leu Met  
                   100                                  105                                  110  
 Asn Val Asp Ser Ile Leu Ala Val Arg Arg Tyr Phe Gln Arg Ile Thr  
                   115                                  120                                  125  
 Leu Tyr Leu Thr Glu Lys Arg Tyr Ser Pro Cys Ala Trp Glu Val Val  
                   130                                  135                                  140  
 Arg Ala Glu Ile Met Arg Ser Phe Ser Phe Ser Thr Asn Leu Gln Glu  
 145                                  150                                  155                                  160

Ser Leu Arg Ser Lys Glu

165

<210> 79

<211> 166

<212> PRT

<213> Artificial Sequence

<220>

<223> IFNalpha B9x14CHO17

<400> 79

Cys Asp Leu Pro Gln Thr His Ser Leu Gly His Arg Arg Thr Met Met  
1 5 10 15  
Leu Leu Ala Gln Met Arg Arg Ile Ser Leu Phe Ser Cys Leu Arg Asp  
20 25 30  
Arg His Asp Phe Arg Phe Pro Gln Glu Glu Phe Asp Gly Asn His Phe  
35 40 45  
Gln Lys Val Gln Ala Ile Phe Leu Phe Tyr Glu Met Met Gln Gln Thr  
50 55 60  
Phe Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr  
65 70 75 80  
Leu Leu Glu Lys Phe Tyr Ile Glu Leu Phe Gln Gln Met Asn Asp Leu  
85 90 95  
Glu Ala Cys Val Met Gln Glu Val Gly Val Glu Glu Thr Pro Leu Met  
100 105 110  
Asn Val Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr  
115 120 125  
Leu Tyr Leu Thr Glu Lys Arg Tyr Ser Pro Cys Ala Trp Glu Val Val  
130 135 140  
Arg Ala Glu Ile Met Arg Ser Phe Ser Phe Ser Thr Asn Leu Gln Glu  
145 150 155 160  
Ser Leu Arg Ser Lys Glu  
165

<210> 80

<211> 166

<212> PRT

<213> Artificial Sequence

<220>

<223> IFNalpha B9x14CHO18

<400> 80

Cys Asp Leu Pro Gln Thr His Ser Leu Gly His Arg Arg Thr Met Met  
1 5 10 15  
Leu Leu Ala Gln Met Arg Arg Ile Ser Leu Phe Ser Cys Leu Arg Asp  
20 25 30  
Arg His Asp Phe Arg Phe Pro Gln Glu Glu Phe Asp Gly Asn His Phe  
35 40 45  
Gln Lys Val Gln Ala Ile Phe Leu Phe Tyr Glu Met Met Gln Gln Thr  
50 55 60  
Phe Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr  
65 70 75 80  
Leu Leu Glu Lys Phe Tyr Ile Glu Leu Phe Gln Gln Met Asn Asp Leu  
85 90 95  
Glu Ala Cys Val Met Gln Glu Val Gly Val Glu Glu Thr Pro Leu Met  
100 105 110  
Asn Val Asp Ser Ile Leu Ala Val Arg Arg Tyr Phe Gln Arg Ile Thr  
115 120 125  
Leu Tyr Leu Thr Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val  
130 135 140  
Arg Ala Glu Ile Met Arg Ser Phe Ser Phe Ser Thr Asn Leu Gln Glu  
145 150 155 160  
Ser Leu Arg Ser Lys Glu  
165

<210> 81

<211> 166

<212> PRT

<213> Artificial Sequence

<220>

<223> IFNalpha B9x14CHO18NP2

<400> 81

Cys Asp Leu Pro Gln Thr His Ser Leu Gly His Arg Arg Thr Met Met  
1 5 10 15  
Leu Leu Ala Gln Met Arg Arg Ile Ser Leu Phe Ser Cys Leu Arg Asp

20	25	30
Arg Gln Asp Phe Arg Phe Pro Gln Glu Glu Phe Asp Gly Asn Gln Phe		
35	40	45
Gln Lys Val Gln Ala Ile Phe Leu Phe Tyr Glu Met Met Gln Gln Thr		
50	55	60
Phe Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr		
65	70	75
Leu Leu Glu Lys Phe Tyr Ile Glu Leu Phe Gln Gln Met Asn Asp Leu		
85	90	95
Glu Ala Cys Val Met Gln Glu Val Gly Val Glu Glu Thr Pro Leu Met		
100	105	110
Asn Val Asp Ser Ile Leu Ala Val Arg Arg Tyr Phe Gln Arg Ile Thr		
115	120	125
Leu Tyr Leu Thr Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val		
130	135	140
Arg Ala Glu Ile Met Arg Ser Phe Ser Phe Ser Thr Asn Leu Gln Glu		
145	150	155
Ser Leu Arg Ser Lys Glu		160
165		

<210> 82

<211> 164

<212> PRT

<213> Artificial Sequence

<220>

<223> IFNalpha B9x14CHO18NP2(165-166

<400> 82

Cys Asp Leu Pro Gln Thr His Ser Leu Gly His Arg Arg Thr Met Met		
1	5	10
Leu Leu Ala Gln Met Arg Arg Ile Ser Leu Phe Ser Cys Leu Arg Asp		
20	25	30
Arg Gln Asp Phe Arg Phe Pro Gln Glu Glu Phe Asp Gly Asn Gln Phe		
35	40	45
Gln Lys Val Gln Ala Ile Phe Leu Phe Tyr Glu Met Met Gln Gln Thr		
50	55	60
Phe Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr		
65	70	75
Leu Leu Glu Lys Phe Tyr Ile Glu Leu Phe Gln Gln Met Asn Asp Leu		

	85		90		95										
Glu	Ala	Cys	Val	Met	Gln	Glu	Val	Gly	Val	Glu	Glu	Thr	Pro	Leu	Met
	100							105					110		
Asn	Val	Asp	Ser	Ile	Leu	Ala	Val	Arg	Arg	Tyr	Phe	Gln	Arg	Ile	Thr
	115							120					125		
Leu	Tyr	Leu	Thr	Glu	Lys	Lys	Tyr	Ser	Pro	Cys	Ala	Trp	Glu	Val	Val
	130							135					140		
Arg	Ala	Glu	Ile	Met	Arg	Ser	Phe	Ser	Phe	Ser	Thr	Asn	Leu	Gln	Glu
	145					150				155				160	
Ser	Leu	Arg	Ser												

<210> 83

<211> 166

<212> PRT

<213> Artificial Sequence

<220>

<223> IFNalpha B9x25CH01

<400> 83

Cys	Asp	Leu	Pro	Gln	Thr	His	Ser	Leu	Ser	Asn	Arg	Arg	Thr	Leu	Met
1				5					10					15	
Leu	Met	Ala	Gln	Met	Arg	Arg	Ile	Ser	Pro	Phe	Ser	Cys	Leu	Lys	Asp
			20					25					30		
Arg	His	Asp	Phe	Gly	Phe	Pro	Glu	Glu	Glu	Phe	Asp	Gly	His	His	Phe
		35					40					45			
Gln	Lys	Val	Gln	Ala	Ile	Phe	Leu	Leu	Tyr	Glu	Leu	Ile	Gln	Gln	Thr
	50					55					60				
Phe	Asn	Leu	Phe	Ser	Thr	Lys	Asp	Ser	Ser	Ala	Ala	Trp	Asp	Glu	Thr
65					70					75				80	
Leu	Leu	Glu	Lys	Phe	Tyr	Ile	Glu	Leu	Phe	Gln	Gln	Met	Asn	Asn	Leu
				85					90					95	
Glu	Ala	Cys	Val	Ile	Gln	Glu	Val	Gly	Val	Glu	Glu	Ile	Ala	Leu	Met
		100						105					110		
Asn	Val	Asp	Ser	Ile	Leu	Ala	Val	Arg	Lys	Tyr	Phe	Arg	Arg	Ile	Thr
		115						120					125		
Leu	Tyr	Leu	Thr	Glu	Lys	Lys	Tyr	Ser	Pro	Cys	Ala	Trp	Glu	Val	Val
	130						135						140		
Arg	Ala	Glu	Ile	Met	Arg	Ser	Phe	Ser	Phe	Ser	Thr	Asn	Leu	Gln	Lys



<213> Artificial Sequence

<220>

<223> IFNalpha B9x25CHO3

<400> 85

Cys Asp Leu Pro Gln Thr His Ser Leu Ser Asn Arg Arg Thr Leu Met  
1 5 10 15  
Leu Met Ala Gln Met Arg Arg Ile Ser Pro Phe Ser Cys Leu Lys Asp  
20 25 30  
Arg His Asp Phe Gly Phe Pro Glu Glu Glu Phe Asp Gly His His Phe  
35 40 45  
Gln Lys Val Gln Ala Ile Phe Leu Leu Tyr Glu Leu Ile Gln Gln Thr  
50 55 60  
Phe Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr  
65 70 75 80  
Leu Leu Glu Lys Phe Tyr Ile Glu Leu Phe Gln Gln Met Asn Asn Leu  
85 90 95  
Glu Ala Cys Val Ile Gln Glu Val Gly Val Glu Glu Ile Ala Leu Met  
100 105 110  
Asn Val Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Arg Arg Ile Thr  
115 120 125  
Leu Tyr Leu Thr Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val  
130 135 140  
Arg Ala Glu Ile Met Arg Ser Phe Ser Leu Ser Thr Asn Leu Gln Glu  
145 150 155 160  
Cys Leu Arg Ser Lys Glu  
165

<210> 86

<211> 166

<212> PRT

<213> Artificial Sequence

<220>

<223> IFNalpha B9x25CHO4

<400> 86

Cys Asp Leu Pro Gln Thr His Ser Leu Ser Asn Arg Arg Thr Leu Met  
1 5 10 15



Leu Met Ala Gln Met Arg Arg Ile Ser Pro Phe Ser Cys Leu Lys Asp  
                   20                                  25                                  30  
 Arg His Asp Phe Gly Phe Pro Glu Glu Glu Phe Asp Gly His His Phe  
                   35                                  40                                  45  
 Gln Lys Val Gln Ala Ile Phe Leu Leu Tyr Glu Leu Ile Gln Gln Thr  
                   50                                  55                                  60  
 Phe Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr  
 65                                  70                                  75                                  80  
 Leu Leu Glu Lys Phe Tyr Ile Glu Leu Phe Gln Gln Met Asn Asn Leu  
                                   85                                  90                                  95  
 Glu Ala Cys Val Ile Gln Glu Val Gly Val Glu Glu Ile Ala Leu Met  
                   100                                  105                                  110  
 Asn Val Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Arg Arg Ile Thr  
                   115                                  120                                  125  
 Leu Tyr Leu Thr Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val  
                   130                                  135                                  140  
 Arg Ala Glu Ile Met Arg Ser Phe Ser Leu Ser Thr Asn Leu Gln Glu  
 145                                  150                                  155                                  160  
 Ser Leu Arg Cys Lys Glu  
                                   165

<210> 87

<211> 166

<212> PRT

<213> Artificial Sequence

<220>

<223> IFNalpha B9x25Ep01

<400> 87

Cys Asp Leu Pro Gln Thr His Ser Leu Ser Asn Arg Arg Thr Leu Met  
                   1                                  5                                  10                                  15  
 Leu Met Ala Gln Met Arg Arg Ile Ser Pro Phe Ser Cys Leu Lys Asp  
                   20                                  25                                  30  
 Arg His Asp Phe Gly Phe Pro Glu Glu Glu Phe Asp Gly His Gln Phe  
                   35                                  40                                  45  
 Gln Lys Thr Gln Ala Ile Ser Val Leu His Glu Leu Ile Gln Gln Thr  
                   50                                  55                                  60  
 Phe Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr  
 65                                  70                                  75                                  80

Leu Leu Glu Lys Phe Tyr Ile Glu Leu Phe Gln Gln Met Asn Asn Leu  
                     85                    90                    95  
 Glu Ala Cys Val Ile Gln Glu Val Gly Val Glu Glu Ile Ala Leu Met  
                     100                    105                    110  
 Asn Val Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Arg Arg Ile Thr  
                     115                    120                    125  
 Leu Tyr Leu Thr Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val  
                     130                    135                    140  
 Arg Ala Glu Ile Met Arg Ser Phe Ser Phe Ser Thr Asn Leu Gln Lys  
 145                    150                    155                    160  
 Arg Leu Arg Arg Lys Glu  
                     165

<210> 88

<211> 166

<212> PRT

<213> Artificial Sequence

<220>

<223> IFNalpha B9x25Ep02

<400> 88

Cys Asp Leu Pro Gln Thr His Ser Leu Ser Asn Arg Arg Thr Leu Met  
   1                    5                    10                    15  
 Ile Met Ala Gln Met Gly Arg Ile Ser Pro Phe Ser Cys Leu Lys Asp  
                     20                    25                    30  
 Arg His Asp Phe Gly Phe Pro Glu Glu Phe Asp Gly His Gln Phe  
                     35                    40                    45  
 Gln Lys Thr Gln Ala Ile Ser Val Leu His Glu Leu Ile Gln Gln Thr  
                     50                    55                    60  
 Phe Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr  
 65                    70                    75                    80  
 Leu Leu Glu Lys Phe Tyr Ile Glu Leu Phe Gln Gln Met Asn Asn Leu  
                     85                    90                    95  
 Glu Ala Cys Val Ile Gln Glu Val Gly Val Glu Glu Ile Ala Leu Met  
                     100                    105                    110  
 Asn Val Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Arg Arg Ile Thr  
                     115                    120                    125  
 Leu Tyr Leu Thr Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val  
                     130                    135                    140



<212> PRT

<213> Artificial Sequence

<220>

<223> IFNalpha B9x25Ep04

<400> 90

Cys Asp Leu Pro Gln Thr His Ser Leu Ser Asn Arg Arg Thr Leu Met  
1 5 10 15  
Leu Met Ala Gln Met Arg Arg Ile Ser Pro Phe Ser Cys Leu Lys Asp  
20 25 30  
Arg His Asp Phe Gly Phe Pro Glu Glu Glu Phe Asp Gly His Gln Phe  
35 40 45  
Gln Lys Thr Gln Ala Ile Ser Val Leu His Glu Met Ile Gln Gln Thr  
50 55 60  
Phe Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr  
65 70 75 80  
Leu Leu Glu Lys Phe Tyr Ile Glu Leu Phe Gln Gln Met Asn Asn Leu  
85 90 95  
Glu Ala Cys Val Ile Gln Glu Val Gly Val Glu Glu Ile Ala Leu Met  
100 105 110  
Asn Val Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Arg Arg Ile Thr  
115 120 125  
Leu Tyr Leu Thr Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val  
130 135 140  
Arg Ala Glu Ile Met Arg Ser Phe Ser Leu Ser Thr Asn Leu Gln Glu  
145 150 155 160  
Ser Leu Arg Ser Lys Glu  
165

<210> 91

<211> 166

<212> PRT

<213> Artificial Sequence

<220>

<223> IFNalpha B9x25Ep05

<400> 91

Cys Asp Leu Pro Gln Thr His Ser Leu Ser Asn Arg Arg Thr Leu Met

1	5	10	15
Leu Met Ala Gln Met Arg Arg Ile Ser Pro Phe Ser Cys Leu Lys Asp			
20	25	30	
Arg His Asp Phe Gly Phe Pro Glu Glu Phe Asp Gly His Gln Phe			
35	40	45	
Gln Lys Thr Gln Ala Ile Ser Val Leu His Glu Leu Ile Gln Gln Thr			
50	55	60	
Phe Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr			
65	70	75	80
Leu Leu Glu Lys Phe Tyr Ile Glu Leu Phe Gln Gln Met Asn Asp Leu			
85	90	95	
Glu Ala Cys Val Ile Gln Glu Val Gly Val Glu Glu Ile Ala Leu Met			
100	105	110	
Asn Val Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Arg Arg Ile Thr			
115	120	125	
Leu Tyr Leu Thr Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val			
130	135	140	
Arg Ala Glu Ile Met Arg Ser Phe Ser Leu Ser Thr Asn Leu Gln Glu			
145	150	155	160
Ser Leu Arg Ser Lys Glu			
165			

<210> 92

<211> 166

<212> PRT

<213> Artificial Sequence

<220>

<223> IFNalpha B9x25Ep06

<400> 92

Cys Asp Leu Pro Gln Thr His Ser Leu Ser Asn Arg Arg Thr Leu Met			
1	5	10	15
Leu Met Ala Gln Met Arg Arg Ile Ser Pro Phe Ser Cys Leu Lys Asp			
20	25	30	
Arg His Asp Phe Gly Phe Pro Glu Glu Phe Asp Gly His Gln Phe			
35	40	45	
Gln Lys Thr Gln Ala Ile Ser Val Leu His Glu Leu Ile Gln Gln Thr			
50	55	60	
Phe Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr			

65		70		75		80									
Leu	Leu	Asp	Lys	Phe	Tyr	Ile	Glu	Leu	Phe	Gln	Gln	Leu	Asn	Asp	Leu
		85		90		95									
Glu	Ala	Cys	Val	Thr	Gln	Glu	Val	Gly	Val	Glu	Glu	Ile	Ala	Leu	Met
		100		105		110									
Asn	Glu	Asp	Ser	Ile	Leu	Ala	Val	Arg	Lys	Tyr	Phe	Arg	Arg	Ile	Thr
		115		120		125									
Leu	Tyr	Leu	Thr	Glu	Lys	Lys	Tyr	Ser	Pro	Cys	Ala	Trp	Glu	Val	Val
		130		135		140									
Arg	Ala	Glu	Ile	Met	Arg	Ser	Phe	Ser	Leu	Ser	Thr	Asn	Leu	Gln	Glu
145				150				155						160	
Ser	Leu	Arg	Ser	Lys	Glu										
				165											

<210> 93

<211> 166

<212> PRT

<213> Artificial Sequence

<220>

<223> IFNalpha B9x25Ep07

<400> 93

Cys	Asp	Leu	Pro	Gln	Thr	His	Ser	Leu	Ser	Asn	Arg	Arg	Thr	Leu	Met
1		5		10		15									
Leu	Met	Ala	Gln	Met	Arg	Arg	Ile	Ser	Pro	Phe	Ser	Cys	Leu	Lys	Asp
		20		25		30									
Arg	His	Asp	Phe	Gly	Phe	Pro	Glu	Glu	Glu	Phe	Asp	Gly	His	Gln	Phe
		35		40		45									
Gln	Lys	Thr	Gln	Ala	Ile	Ser	Val	Leu	His	Glu	Leu	Ile	Gln	Gln	Thr
		50		55		60									
Phe	Asn	Leu	Phe	Ser	Thr	Lys	Asp	Ser	Ser	Ala	Ala	Trp	Asp	Glu	Thr
65				70		75								80	
Leu	Leu	Glu	Lys	Phe	Tyr	Ile	Glu	Leu	Phe	Gln	Gln	Met	Asn	Asn	Leu
		85		90		95									
Glu	Ala	Cys	Val	Ile	Gln	Glu	Val	Gly	Val	Glu	Glu	Ile	Ala	Leu	Met
		100		105		110									
Asn	Val	Asp	Ser	Ile	Leu	Ala	Val	Arg	Lys	Tyr	Phe	Gln	Arg	Ile	Thr
		115		120		125									
Leu	Tyr	Leu	Thr	Glu	Lys	Lys	Tyr	Ser	Pro	Cys	Ala	Trp	Glu	Val	Val

130	135	140	
Arg Ala Glu Ile Met Arg Ser Phe Ser Leu Ser Thr Asn Leu Gln Glu			
145	150	155	160
Ser Leu Arg Ser Lys Glu			
165			

<210> 94

<211> 166

<212> PRT

<213> Artificial Sequence

<220>

<223> IFNalpha B9x25Ep08

<400> 94

Cys Asp Leu Pro Gln Thr His Ser Leu Ser Asn Arg Arg Thr Leu Met			
1	5	10	15
Leu Met Ala Gln Met Arg Arg Ile Ser Pro Phe Ser Cys Leu Lys Asp			
20	25	30	
Arg His Asp Phe Gly Phe Pro Glu Glu Glu Phe Asp Gly His Gln Phe			
35	40	45	
Gln Lys Thr Gln Ala Ile Ser Val Leu His Glu Leu Ile Gln Gln Thr			
50	55	60	
Phe Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr			
65	70	75	80
Leu Leu Glu Lys Phe Tyr Ile Glu Leu Phe Gln Gln Met Asn Asn Leu			
85	90	95	
Glu Ala Cys Val Ile Gln Glu Val Gly Val Glu Glu Ile Ala Leu Met			
100	105	110	
Asn Val Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Arg Arg Ile Thr			
115	120	125	
Leu Tyr Leu Thr Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val			
130	135	140	
Arg Ala Glu Ile Met Arg Ser Phe Ser Leu Ser Thr Asn Leu Gln Glu			
145	150	155	160
Ser Leu Arg Ser Lys Glu			
165			

<210> 95

<211> 166  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> IFNalpha B9x25Ep10

<400> 95  
Cys Asp Leu Pro Gln Thr His Ser Leu Ser Asn Arg Arg Thr Leu Met  
1 5 10 15  
Ile Met Ala Gln Met Gly Arg Ile Ser Pro Phe Ser Cys Leu Lys Asp  
20 25 30  
Arg His Asp Phe Gly Phe Pro Glu Glu Phe Asp Gly His His Phe  
35 40 45  
Gln Lys Val Gln Ala Ile Phe Leu Leu Tyr Glu Leu Ile Gln Gln Thr  
50 55 60  
Phe Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr  
65 70 75 80  
Leu Leu Glu Lys Phe Tyr Ile Glu Leu Phe Gln Gln Met Asn Asn Leu  
85 90 95  
Glu Ala Cys Val Ile Gln Glu Val Gly Val Glu Glu Ile Ala Leu Met  
100 105 110  
Asn Val Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Arg Arg Ile Thr  
115 120 125  
Leu Tyr Leu Thr Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val  
130 135 140  
Arg Ala Glu Ile Met Arg Ser Phe Ser Leu Ser Thr Asn Leu Gln Glu  
145 150 155 160  
Ser Leu Arg Ser Lys Glu  
165

<210> 96  
<211> 166  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> IFNalpha B9x25Ep11

<400> 96



Cys	Asn	Leu	Ser	Gln	Thr	His	Ser	Leu	Asn	Asn	Arg	Arg	Thr	Leu	Met
1				5					10					15	
Leu	Met	Ala	Gln	Met	Arg	Arg	Ile	Ser	Pro	Phe	Ser	Cys	Leu	Lys	Asp
			20					25					30		
Arg	His	Asp	Phe	Gly	Phe	Pro	Glu	Glu	Glu	Phe	Asp	Gly	His	His	Phe
		35					40					45			
Gln	Lys	Val	Gln	Ala	Ile	Phe	Leu	Leu	Tyr	Glu	Leu	Ile	Gln	Gln	Thr
	50					55					60				
Phe	Asn	Leu	Phe	Ser	Thr	Lys	Asp	Ser	Ser	Ala	Ala	Trp	Asp	Glu	Thr
65					70					75				80	
Leu	Leu	Glu	Lys	Phe	Tyr	Ile	Glu	Leu	Phe	Gln	Gln	Met	Asn	Asn	Leu
				85					90				95		
Glu	Ala	Cys	Val	Ile	Gln	Glu	Val	Gly	Val	Glu	Glu	Ile	Ala	Leu	Met
		100						105					110		
Asn	Val	Asp	Ser	Ile	Leu	Ala	Val	Arg	Lys	Tyr	Phe	Arg	Arg	Ile	Thr
		115						120					125		
Leu	Tyr	Leu	Thr	Glu	Lys	Lys	Tyr	Ser	Pro	Cys	Ala	Trp	Glu	Val	Val
	130					135					140				
Arg	Ala	Glu	Ile	Met	Arg	Ser	Phe	Ser	Leu	Ser	Thr	Asn	Leu	Gln	Glu
145					150					155				160	
Ser	Leu	Arg	Ser	Lys	Glu										
				165											

<210> 97

<211> 166

<212> PRT

<213> Artificial Sequence

<220>

<223> IFNalpha B9x25Ep12

<400> 97

Cys	Asp	Leu	Pro	Gln	Thr	His	Ser	Leu	Ser	Asn	Arg	Arg	Thr	Leu	Met
1				5					10					15	
Leu	Met	Ala	Gln	Met	Arg	Arg	Ile	Ser	Pro	Phe	Ser	Cys	Leu	Lys	Asp
			20					25					30		
Arg	His	Asp	Phe	Gly	Phe	Pro	Glu	Glu	Glu	Phe	Asp	Gly	His	His	Phe
		35					40					45			
Gln	Lys	Val	Gln	Ala	Ile	Phe	Leu	Leu	Tyr	Glu	Leu	Ile	Gln	Gln	Thr
	50					55					60				

Phe	Asn	Leu	Phe	Ser	Thr	Lys	Asp	Ser	Ser	Ala	Ala	Trp	Asp	Glu	Thr
65					70					75				80	
Leu	Leu	Glu	Lys	Phe	Tyr	Ile	Glu	Leu	Phe	Gln	Gln	Met	Asn	Asn	Leu
				85					90					95	
Glu	Ala	Cys	Val	Ile	Gln	Glu	Val	Gly	Val	Glu	Glu	Ile	Ala	Leu	Met
			100					105					110		
Asn	Val	Asp	Ser	Ile	Leu	Ala	Val	Arg	Lys	Tyr	Phe	Gln	Arg	Ile	Thr
		115						120					125		
Leu	Tyr	Leu	Thr	Glu	Lys	Lys	Tyr	Ser	Pro	Cys	Ala	Trp	Glu	Val	Val
	130					135					140				
Arg	Ala	Glu	Ile	Met	Arg	Ser	Phe	Ser	Leu	Ser	Thr	Asn	Leu	Gln	Glu
145					150					155				160	
Ser	Leu	Arg	Ser	Lys	Glu										
					165										

<210> 98

<211> 166

<212> PRT

<213> Artificial Sequence

<220>

<223> IFNalpha B9x25Ep13

<400> 98

Cys	Asp	Leu	Pro	Gln	Thr	His	Ser	Leu	Ser	Asn	Arg	Arg	Thr	Leu	Met
1				5					10					15	
Ile	Met	Ala	Gln	Met	Gly	Arg	Ile	Ser	Pro	Phe	Ser	Cys	Leu	Lys	Asp
			20					25					30		
Arg	His	Asp	Phe	Gly	Phe	Pro	Glu	Glu	Glu	Phe	Asp	Gly	His	His	Phe
		35					40					45			
Gln	Lys	Val	Gln	Ala	Ile	Phe	Leu	Leu	Tyr	Glu	Leu	Ile	Gln	Gln	Thr
	50					55					60				
Phe	Asn	Leu	Phe	Ser	Thr	Lys	Asp	Ser	Ser	Ala	Ala	Trp	Asp	Glu	Thr
65					70					75				80	
Leu	Leu	Glu	Lys	Phe	Tyr	Ile	Glu	Leu	Phe	Gln	Gln	Met	Asn	Asn	Leu
				85					90					95	
Glu	Ala	Cys	Val	Ile	Gln	Glu	Val	Gly	Val	Glu	Glu	Ile	Ala	Leu	Met
			100					105					110		
Asn	Val	Asp	Ser	Ile	Leu	Ala	Val	Arg	Lys	Tyr	Phe	Gln	Arg	Ile	Thr
					115				120				125		

Leu Tyr Leu Thr Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val  
 130 135 140  
 Arg Ala Glu Ile Met Arg Ser Phe Ser Leu Ser Thr Asn Leu Gln Glu  
 145 150 155 160  
 Ser Leu Arg Ser Lys Glu  
 165

<210> 99  
 <211> 166  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> IFNalpha B9x25Ep14

<400> 99  
 Cys Asn Leu Ser Gln Thr His Ser Leu Asn Asn Arg Arg Thr Leu Met  
 1 5 10 15  
 Leu Met Ala Gln Met Arg Arg Ile Ser Pro Phe Ser Cys Leu Lys Asp  
 20 25 30  
 Arg His Asp Phe Gly Phe Pro Glu Glu Phe Asp Gly His His Phe  
 35 40 45  
 Gln Lys Val Gln Ala Ile Phe Leu Leu Tyr Glu Leu Ile Gln Gln Thr  
 50 55 60  
 Phe Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr  
 65 70 75 80  
 Leu Leu Glu Lys Phe Tyr Ile Glu Leu Phe Gln Gln Met Asn Asn Leu  
 85 90 95  
 Glu Ala Cys Val Ile Gln Glu Val Gly Val Glu Glu Ile Ala Leu Met  
 100 105 110  
 Asn Val Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr  
 115 120 125  
 Leu Tyr Leu Thr Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val  
 130 135 140  
 Arg Ala Glu Ile Met Arg Ser Phe Ser Leu Ser Thr Asn Leu Gln Glu  
 145 150 155 160  
 Ser Leu Arg Ser Lys Glu  
 165

<210> 100  
 <211> 166  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> IFNalpha B9x25Ep15

<400> 100  
 Cys Asp Leu Pro Gln Thr His Ser Leu Ser Asn Arg Arg Thr Leu Met  
 1 5 10 15  
 Leu Met Ala Gln Met Arg Arg Ile Ser Pro Phe Ser Cys Leu Lys Asp  
 20 25 30  
 Arg His Asp Phe Gly Phe Pro Glu Glu Glu Phe Asp Gly His Gln Phe  
 35 40 45  
 Gln Lys Thr Gln Ala Ile Ser Val Leu His Glu Leu Ile Gln Gln Thr  
 50 55 60  
 Phe Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr  
 65 70 75 80  
 Leu Leu Glu Lys Phe Tyr Ile Glu Leu Phe Gln Gln Met Asn Asn Leu  
 85 90 95  
 Glu Ala Cys Val Ile Gln Glu Val Gly Val Glu Glu Ile Ala Leu Met  
 100 105 110  
 Asn Val Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Arg Arg Ile Thr  
 115 120 125  
 Leu Tyr Leu Thr Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val  
 130 135 140  
 Arg Ala Glu Ile Met Arg Ser Phe Ser Leu Ser Thr Asn Leu Gln Glu  
 145 150 155 160  
 Ser Leu Arg Ser Lys Glu  
 165

<210> 101  
 <211> 166  
 <212> PRT  
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<220>  
 <223> IFNalpha B9x25Ep16

<400> 101

Cys Asp Leu Pro Gln Thr His Ser Leu Ser Asn Arg Arg Thr Leu Met  
1 5 10 15  
Ile Met Ala Gln Met Gly Arg Ile Ser Pro Phe Ser Cys Leu Lys Asp  
20 25 30  
Arg His Asp Phe Gly Phe Pro Glu Glu Glu Phe Asp Gly His Gln Phe  
35 40 45  
Gln Lys Thr Gln Ala Ile Ser Val Leu His Glu Leu Ile Gln Gln Thr  
50 55 60  
Phe Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr  
65 70 75 80  
Leu Leu Glu Lys Phe Tyr Ile Glu Leu Phe Gln Gln Met Asn Asn Leu  
85 90 95  
Glu Ala Cys Val Ile Gln Glu Val Gly Val Glu Glu Ile Ala Leu Met  
100 105 110  
Asn Val Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr  
115 120 125  
Leu Tyr Leu Thr Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val  
130 135 140  
Arg Ala Glu Ile Met Arg Ser Phe Ser Leu Ser Thr Asn Leu Gln Glu  
145 150 155 160  
Ser Leu Arg Ser Lys Glu  
165

<210> 102

<211> 166

<212> PRT

<213> Artificial Sequence

<220>

<223> IFNalpha B9x25Ep17

<400> 102

Cys Asn Leu Ser Gln Thr His Ser Leu Asn Asn Arg Arg Thr Leu Met  
1 5 10 15  
Leu Met Ala Gln Met Arg Arg Ile Ser Pro Phe Ser Cys Leu Lys Asp  
20 25 30  
Arg His Asp Phe Gly Phe Pro Glu Glu Glu Phe Asp Gly His Gln Phe  
35 40 45  
Gln Lys Thr Gln Ala Ile Ser Val Leu His Glu Leu Ile Gln Gln Thr

50		55		60
Phe Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr				
65		70		80
Leu Leu Glu Lys Phe Tyr Ile Glu Leu Phe Gln Gln Met Asn Asn Leu				
	85		90	95
Glu Ala Cys Val Ile Gln Glu Val Gly Val Glu Glu Ile Ala Leu Met				
	100		105	110
Asn Val Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr				
	115		120	125
Leu Tyr Leu Thr Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val				
	130		135	140
Arg Ala Glu Ile Met Arg Ser Phe Ser Leu Ser Thr Asn Leu Gln Glu				
145		150		160
Ser Leu Arg Ser Lys Glu				
	165			

<210> 103

<211> 166

<212> PRT

<213> Artificial Sequence

<220>

<223> IFNalpha B9x25EF1

<400> 103

Cys Asp Leu Pro Gln Thr His Ser Leu Ser Asn Arg Arg Thr Leu Met			
1	5	10	15
Ile Met Ala Gln Met Gly Arg Ile Ser Pro Phe Ser Cys Leu Lys Asp			
	20	25	30
Arg His Asp Phe Gly Phe Pro Glu Glu Glu Phe Asp Gly His Gln Phe			
	35	40	45
Gln Lys Thr Gln Ala Ile Ser Val Leu His Glu Met Ile Gln Gln Thr			
	50	55	60
Phe Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr			
65	70	75	80
Leu Leu Asp Lys Phe Tyr Ile Glu Leu Phe Gln Gln Leu Asn Asp Leu			
	85	90	95
Glu Ala Cys Val Thr Gln Glu Val Gly Val Glu Glu Ile Ala Leu Met			
	100	105	110
Asn Glu Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr			

115	120	125
Leu Tyr Leu Thr Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val		
130	135	140
Arg Ala Glu Ile Met Arg Ser Phe Ser Leu Ser Thr Asn Leu Gln Glu		
145	150	155
Ser Leu Arg Ser Lys Glu		160
165		

<210> 104  
 <211> 166  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> IFNalpha B9x25EF2

<400> 104

Cys Asn Leu Ser Gln Thr His Ser Leu Asn Asn Arg Arg Thr Leu Met
1 5 10 15
Leu Met Ala Gln Met Arg Arg Ile Ser Pro Phe Ser Cys Leu Lys Asp
20 25 30
Arg His Asp Phe Gly Phe Pro Glu Glu Glu Phe Asp Gly His Gln Phe
35 40 45
Gln Lys Thr Gln Ala Ile Ser Val Leu His Glu Met Ile Gln Gln Thr
50 55 60
Phe Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr
65 70 75 80
Leu Leu Asp Lys Phe Tyr Ile Glu Leu Phe Gln Gln Leu Asn Asp Leu
85 90 95
Glu Ala Cys Val Thr Gln Glu Val Gly Val Glu Glu Ile Ala Leu Met
100 105 110
Asn Glu Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr
115 120 125
Leu Tyr Leu Thr Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val
130 135 140
Arg Ala Glu Ile Met Arg Ser Phe Ser Leu Ser Thr Asn Leu Gln Glu
145 150 155 160
Ser Leu Arg Ser Lys Glu
165